

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE				Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th					2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
.01	.00					PREPARATION OF PLANS				.03	.00			PREPARATION OF PLANS
.01	.01					Work Plan				.03	.01			Work Plan
.01	.02					Chemical Data Acquisition Plan				.03	.02			Chemical Data Acquisition Plan
.01	.03	.00				Sampling and Analysis Plan				.03	.03			Sampling and Analysis Plan
.01	.03	.01				Quality Assurance Project Plan				.03	.03	.01		Quality Assurance Project Plan
.01	.03	.02				Field Sampling Plan				.03	.03	.02		Field Sampling Plan
.01	.04					Site Health & Safety Plan				.03	.04			Health & Safety Plan
.01	.05					Pollution Control and Mitigation Plan				.03	.05			Pollution Control and Mitigation Plan
.01	.06					Data Management Plan				.03	.06			Data Management Plan
.01	.07					Community Relations Plan				.03	.07			Community Relations Plan
.01	.08					Transportation & Disposal Plan (Waste Mgt. Plan)				.03	.08			Transportation & Disposal Plan (Environmental Mgt. Plan)
.01	.09					Site Management Plan				.03	.09			Management Plan
.01	.10					Risk Assessment Plan				.03	.10			Risk Assessment Plan
.01	.11	.00				Develop Technical Project Goals & Objectives				.03	.11			Technical Project Goals & Objectives
.01	.11	.01				Develop Conceptual Site Model				.03	.11	.01		Develop Conceptual Site Model
.01	.11	.02				ID of Data Needs & DQOs				.03	.11	.02		ID of Data Needs & DQOs
.01	.11	.03				ID of Prelim. RA Objectives & Potential Alternatives				.03	.11	.03		ID of Prelim. RA Objectives & Potential Alternatives
.01	.11	.04				ID of Treatability Studies				.03	.11	.04		ID of Treatability Studies
.01	.11	.05				Preliminary ID of ARARs of STDs				.03	.11	.05		Preliminary ID of ARARs of STDs
.01	.11	.06				ID of NEPA Requirements				.03	.11	.06		ID of NEPA Requirements
.01	.11	.07				ID of Other Regulatory Requirements				.03	.11	.07		ID of Other Regulatory Requirements
.01	.12	.00				Develop Emergency Response Plans/Report/Approval				.03	.13			Emergency Response Plans / Report / Approval
.01	.12	.01				Engineering Evaluation & Cost Analyses				.03	.13	.01		Engineering Evaluation & Cost Analyses
.01	.12	.02				Action Memo Preparation				.03	.13	.02		Action Memo Preparation
.01	.12	.03				Removal Action Plans & Specs.				.03	.13	.03		Removal Action Plans & Specs.
.01	.13					Develop Emergency Response Plans/Report/Approval				.03	.14			Environmental Workplans
.02	.00					PROJECT MANAGEMENT / SUPPORT / ADMIN				.02	.01			Project Management / Support / Administration
.02	.01	.00				Conduct Project Management				.02	.01	.01		Project Management
.02	.01	.01				Develop Cost Estimate				.02	.01	.01	.01	<i>Develop cost estimate</i>
.02	.01	.02				Cost / Schedule Control System				.02	.01	.01	.02	<i>Cost/schedule control system</i>
.02	.01	.03				Value Engineering / Cost Analysis				.02	.01	.01	.03	<i>Value engineering/cost analysis</i>
.02	.01	.04				Engineering Network Analysis				.02	.01	.01	.04	<i>Engineering network analysis</i>
.02	.01	.05				Manage, Track and Report Equipment Status				.02	.01	.01	.05	<i>Manage, track and report equipment status</i>
.02	.01	.06				Conduct Site Visit				.02	.01	.01	.07	<i>Conduct site visit</i>
.02	.01	.07				Attend Scoping Meeting				.02	.01	.01	.06	<i>Attend scoping meeting</i>
.02	.01	.08				Evaluate Existing Data				.02	.01	.01	.08	<i>Evaluate existing data</i>
.02	.01	.09				Prepare Reports / Participate in Reviews				.02	.01	.01	.10	<i>Prepare reports/participate in reviews</i>
.02	.01	.10				Project Closeout				.02	.01	.01	.14	<i>Project closeout</i>
.02	.02	.00				Support Subcontracting Activities				.02	.01	.02		Support Subcontracting Activities
.02	.02	.01				Procurement of Subcontractors				.02	.01	.02	.01	<i>Procurement of subcontractors</i>
.02	.02	.02				Contractor QA Program				.02	.01	.02	.03	<i>Contractor QA program</i>
.02	.02	.03				Coordinate with Analytical Laboratory				.02	.01	.02	.04	<i>Coordinate with analytical laboratory</i>
.02	.03	.00				Administration / Reporting				.02	.01	.03	.00	Administration / Reporting
.02	.03	.01				Document Cost and Performance Status				.02	.01	.03	.06	<i>Document cost and performance status</i>
.02	.03	.02				Billings				.02	.01	.03	.07	<i>Billings</i>
.03	.00					ADMINISTRATIVE RECORD				.02	.01	.06		Administration Record
.03	.01					Attend Meetings				.02	.01	.01	.09	<i>Attend public meetings/hearing/meetings with PRP's</i>
.03	.02	.00				Compile Documents				.02	.01	.03	.04	<i>Compile documents</i>
.03	.02	.01				Prepare Draft Administrative Record Index				.02	.01	.03	.04	<i>Compile documents</i>
.03	.02	.02				Prepare Administrative Record Index				.02	.01	.03	.04	<i>Compile documents</i>
.03	.02	.03				Coordinate Duplication of Administrative Record				.02	.01	.03	.04	<i>Compile documents</i>

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE				Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th					2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
.03	.03					Assemble / Update Administrative Record and Index				.02	.01	.04	.05	Assemble/update administrative record and index
.04	.00					COMMUNITY RELATIONS				.02	.02			Community Relations
.04	.01					Conduct Community Interviews				.02	.02	.01		Conduct Community Interviews
.04	.02	.00				Provide Support for Community Relations				.02	.02	.02	.00	Provide Support for Community Relations
.04	.02	.01				Prepare Fact Sheets				.02	.02	.02	.01	Prepare fact sheets
.04	.02	.02				Participate in Public Meetings / Hearings				.02	.02	.02	.02	Participate in public meetings/hearings
.04	.02	.03				Support Briefings				.02	.02	.02	.03	Support briefings
.04	.03					Maintain Public Information Repository				.02	.02	.03		Maintain Public Information Repository
.05	.00					REGULATORY INTERACTION				.02	.03			Regulatory Interaction
.05	.01					Support Meetings with Regulators				.02	.03	.01	.00	Support Meetings with Regulators
.05	.02	.00				Coordination of Laws & Regulations				.02	.03	.02	.00	Coordination of Laws & Regulations
.05	.02	.01				Prepare Initial Notification				.02	.03	.02	.01	Prepare initial notification
.05	.03	.00				Develop Interagency Agreement				.02	.03	.03	.00	Develop Interagency Agreement
.05	.03	.01				Agency Review Support				.02	.03	.03	.01	Agency review support
.05	.03	.02				State & Local Agency Review				.02	.03	.03	.02	State & local agency review
.05	.04					Develop Regulatory Reports / Permits / Reviews				.02	.03	.04		Regulatory Reports/Reviews
.05	.04					Develop Regulatory Reports / Permits / Reviews				.02	.03	.05		Regulatory Permitting (e.g., RCRA Part B Permit)
.06	.00					FIELD INVESTIGATION				.07	.00			INVESTIGATIONS & MONITORING/SAMPLE COLLECTION
.06	.01	.00				Site Reconnaissance				.07	.01			Site Reconnaissance
.06	.01	.01				Ecological Resources Reconnaissance				.07	.01	.01		Ecological Resources Reconnaissance
.06	.01	.02				Well Inventory				.07	.01	.02		Well Inventory
.06	.01	.03				Residential Well Sampling				.07	.01	.03		Residential Well Sampling
.06	.01	.04				Land Survey				.07	.01	.04		Land Survey
.06	.01	.05				Topographic Mapping				.07	.01	.05		Topographic Mapping
.06	.01	.06				Field Screening				.07	.01	.06		Field Screening
.06	.02					Perform Mobilization/Demobilization				.05	.01			Mobilization
.06	.02					Perform Mobilization/Demobilization				.05	.36			Demobilization
.06	.03	.00				Conduct Geological Investigations (Soils/sediments)				.07	.11			Soil / Sediment Sampling
.06	.03	.01				Surface Soil Sample Collection				.07	.11	.01		Surface Soil Sample Collection
.06	.03	.02				Subsurface Soil Sample Collection				.07	.11	.02		Subsurface Soil Sample Collection
.06	.03	.03				Soil Boring / Permeability Sampling				.07	.11	.03		Soil Boring / Permeability Sampling
.06	.03	.04				Sediments Sample Collection				.07	.11	.04		Sediments Sample Collection
.06	.03	.05				Soil Gas Survey				.07	.11	.05		Soil Gas Survey
.06	.03	.06				Test Pit				.07	.11	.06		Test Pit
.06	.04	.00				Conduct Air Sampling				.07	.08			Air Monitoring and Sampling
.06	.04	.01				Sample Collection				.07	.08	.01		Sample Collection
.06	.04	.02				Air Monitoring Station				.07	.08	.02		Air Monitoring Station
.06	.05	.00				Conduct Hydrogeological Investigations - Groundwater				.07	.09			Groundwater Sampling / Monitoring
.06	.05	.01				Well System Installation				.07	.15			Monitoring Well Systems
.06	.05	.02				Sample Collection				.07	.09	.01		Sample Collection - Groundwater
.06	.05	.03				Hydro Punch				.07	.04	.01		Hydro Punch
.06	.05	.04				Tidal Influence Study				.07	.04	.02		Tidal Influence Study
.06	.05	.05				Hydraulic Tests (Pump Test)				.07	.04	.03		Hydraulic Tests (Pump Test)
.06	.05	.06				Groundwater Elevation Measurement				.07	.04	.04		Groundwater Elevation Measurement
.06	.06	.00				Conduct Hydrogeological Investigations - Surface Water				.07	.05			Hydrogeological Investigations - Surface Water
.06	.06	.01				Sample Collection				.07	.10			Surface Water Sampling
.06	.06	.02				Tidal Influence Study				.07	.05	.01		Tidal Influence Study
.06	.06	.03				Surface Water Elevation Measurement				.07	.05	.02		Surface Water Elevation Measurement
.06	.07	.00				Conduct Waste Investigations				.07	.13			Material/Waste Sampling
.06	.07	.01				Sample Collection - (Gas, Liquid, Solid)				.07	.13	.01		Sample Collection - Gas
.06	.07	.01				Sample Collection - (Gas, Liquid, Solid)				.07	.13	.02		Sample Collection - Liquid

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
.06	.07	.01				Sample Collection - (Gas, Liquid, Solid)	.07	.13	.03		Sample Collection - Solid
.06	.07	.02				Derived Waste Disposal - (Gas, Liquid, Solid)	.09	.05			Derived Waste Disposal (Gas, Liquid, Solid)
.06	.08	.00				Conduct Geophysical Investigations	.07	.06			Geophysical / Geotechnical Investigation
.06	.08	.01				Surface Geophysical Activity	.07	.06	.02		Surface Geophysical Activity
.06	.08	.02				Magnetometer	.07	.06	.03		Magnetometer
.06	.08	.03				Electromagnetic	.07	.06	.04		Electromagnetic
.06	.08	.04				Ground Penetration Radar	.07	.06	.05		Ground Penetration Radar
.06	.08	.05				Seismic Refraction	.07	.06	.06		Seismic Refraction
.06	.08	.06				Resistivity	.07	.06	.07		Resistivity
.06	.08	.07				Site Meteorology	.07	.06	.08		Site Meteorology
.06	.08	.08				Cone Penetrometer Survey	.07	.06	.09		Cone Penetrometer Survey
.06	.08	.09				Remote Sensor Survey	.07	.06	.10		Remote Sensor Survey
.06	.08	.10				Radiological Investigations	.06	.02	.02		Routine Radiological Surveys
.06	.09	.00				Conduct Ecological Investigation	.07	.07			Ecological Investigation
.06	.09	.01				Wetland and Habitat Delineation	.07	.07	.01		Wetland and Habitat Delineation
.06	.09	.02				Wildlife Observations	.07	.07	.02		Wildlife Observations
.06	.09	.03				Community Characterization	.07	.07	.03		Community Characterization
.06	.09	.04				Identification of Endangered Species	.07	.07	.04		Identification of Endangered Species
.06	.09	.05				Biota Sampling / Population Studies	.07	.07	.04		Identification of Endangered Species
.06	.10					Contaminated Building / Structures Samples	.07	.14			Contaminated Building/Structures/Equipment Samples
.07	.00					SITE WORK / TEMPORARY FACILITIES	.05	.00			SITE WORK
.07	.01					Perform Mobilization/Demobilization	.05	.01			Mobilization
.07	.01					Perform Mobilization/Demobilization	.05	.36			Demobilization
.07	.01					Perform Mobilization/Demobilization	.05	.51	.01		Mobilization
.07	.01					Perform Mobilization/Demobilization	.05	.51	.02		Demobilization
.07	.02					Clear & Grub	.05	.03			Clear & Grub
.07	.02					Clear & Grub	.05	.52	.02		Site Clearing and Grubbing
.07	.03					Perform Earthwork	.05	.05			Excavation/Earthwork
.07	.03					Perform Earthwork	.05	.52	.04		Excavation
.07	.04					Build roads/Parking/Curbs/Walks	.05	.08			Access Roads
.07	.04					Build roads/Parking/Curbs/Walks	.05	.15			Parking Lots
.07	.04					Build roads/Parking/Curbs/Walks	.05	.17			Sidewalks
.07	.04					Build roads/Parking/Curbs/Walks	.05	.52	.06		Permanent Rock and Gravel Roads
.07	.04					Build roads/Parking/Curbs/Walks	.05	.52	.07		Permanent Bituminous Paving
.07	.04					Build roads/Parking/Curbs/Walks	.05	.52	.11		Permanent Road, Walks, and Parking
.07	.04					Build roads/Parking/Curbs/Walks	.05	.52	.13		Bituminous Sidewalks
.07	.05					Install Fencing	.05	.14			Fencing
.07	.06					Install Electrical Distribution	.05	.31			Overhead Electrical Distribution
.07	.06					Install Electrical Distribution	.05	.32			Underground Electrical Distribution
.07	.06					Install Electrical Distribution	.05	.66	.03		Power Transmission and Distribution
.07	.07					Install Telephone/Communication Distribution	.05	.29			Communications
.07	.07					Install Telephone/Communication Distribution	.05	.66	.01		Communication Devices
.07	.08					Install/Water/Sewer/Gas Distribution	.05	.20			Gas Distribution
.07	.08					Install/Water/Sewer/Gas Distribution	.05	.26			Water Distribution
.07	.08					Install/Water/Sewer/Gas Distribution	.05	.33			Sanitary Sewer
.07	.09					Install Steam and Condensate Distribution	.05	.24			Steam and Condensate Distribution
.07	.10					Install Fuel Line Distribution	.05	.21			Fuel Line Distribution
.07	.11					Install Storm Drainage/Subdrainage	.05	.28			Storm Sewer
.07	.12					Provide Cover Structure over Contaminated Area	.05	.01	.03	.13	Temporary cover structure over contaminated area
.07	.13					Borrow Pit / Haul Roads	.05	.07			Borrow Pit / Haul Roads
.07	.14					Construct Temporary Decontamination Facility	.05	.01	.03	.11	Decontamination facilities for personnel

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
.07	.14					Construct Temporary Decontamination Facility	.05	.01	.03	.12	Decontamination facilities for construction equipment and vehicles
.07	.15					Construct Sample/Derived Waste Storage Facility	.12	.02			Conventional Storage/Warehouse
.07	.16					Construct Other Temporary Facilities	.05	.01	.03	.9x	Others
.07	.17					Construct Temporary/Mobile Laboratory	.05	.01	.03	.07	Temporary laboratory
.07	.18					Site Restoration	.05	.02			Cleanup / Landscaping / Revegetation
.07	.18					Site Restoration	.05	.52	.01		Landscaping
.08	.00					OFF-SITE LABORATORY SAMPLE ANALYSIS	.08	.00			SAMPLE ANALYSIS
.08	.01	.00				Analyze Air / Gas Sample Analysis	.08	.01			Air / Gas Sample Analysis
.08	.01	.01				Organic	.08	.01	.01		Organic
.08	.01	.02				Inorganic	.08	.01	.02		Inorganic
.08	.01	.03				Radiochemistry	.08	.01	.03		Radiochemistry
.08	.02	.00				Analyze Groundwater Sample Analysis	.08	.02			Groundwater Sample Analysis
.08	.02	.01				Organic	.08	.02	.01		Organic
.08	.02	.02				Inorganic	.08	.02	.02		Inorganic
.08	.02	.03				Radiochemistry	.08	.02	.03		Radiochemistry
.08	.03	.00				Analyze Surface Water Sample Analysis	.08	.03			Surface Water Sample Analysis
.08	.03	.01				Organic	.08	.03	.01		Organic
.08	.03	.02				Inorganic	.08	.03	.02		Inorganic
.08	.03	.03				Radiochemistry	.08	.03	.03		Radiochemistry
.08	.04	.00				Analyze Soil / Sediment Sample Analysis	.08	.04			Soil / Sediment Sample Analysis
.08	.04	.01				Organic	.08	.04	.01		Organic
.08	.04	.02				Inorganic	.08	.04	.02		Inorganic
.08	.04	.03				Radiochemistry	.08	.04	.03		Radiochemistry
.08	.05	.00				Analyze Waste (Gas) Samples	.08	.05			Gas Waste Sample Analysis
.08	.05	.01				Organic	.08	.05	.01		Organic
.08	.05	.02				Inorganic	.08	.05	.02		Inorganic
.08	.05	.03				Radiochemistry	.08	.05	.03		Radiochemistry
.08	.06	.00				Analyze Waste (Liquid) Samples	.08	.06			Liquid Material/Waste Sample Analysis
.08	.06	.01				Organic	.08	.06	.01		Organic
.08	.06	.02				Inorganic	.08	.06	.02		Inorganic
.08	.06	.03				Radiochemistry	.08	.06	.03		Radiochemistry
.08	.07	.00				Analyze Waste (Solid) Samples	.08	.07			Solid Material/Waste Sample Analysis
.08	.07	.01				Organic	.08	.07	.01		Organic
.08	.07	.02				Inorganic	.08	.07	.02		Inorganic
.08	.07	.03				Radiochemistry	.08	.07	.03		Radiochemistry
.08	.08	.00				Analyze Biota Samples	.08	.08			Biota Sample Analysis
.08	.08	.01				Organic	.08	.08	.01		Organic
.08	.08	.02				Inorganic	.08	.08	.02		Inorganic
.08	.08	.03				Radiochemistry	.08	.08	.03		Radiochemistry
.08	.09					Analyze Bioassay Sample Analysis	.08	.09			Bioassay Sample Analysis
.08	.10					Perform Bioaccumulation Studies	.08	.10			Bioaccumulation Studies
.09	.00					ON-SITE LABORATORY SAMPLE ANALYSIS	.08	.00			SAMPLE ANALYSIS
.09	.01	.00				Analyze Air / Gas Sample Analysis	.08	.01			Air / Gas Sample Analysis
.09	.01	.01				Organic	.08	.01	.01		Organic
.09	.01	.02				Inorganic	.08	.01	.02		Inorganic
.09	.01	.03				Radiochemistry	.08	.01	.03		Radiochemistry
.09	.02	.00				Analyze Groundwater Sample Analysis	.08	.02			Groundwater Sample Analysis
.09	.02	.01				Organic	.08	.02	.01		Organic
.09	.02	.02				Inorganic	.08	.02	.02		Inorganic
.09	.02	.03				Radiochemistry	.08	.02	.03		Radiochemistry
.09	.03	.00				Analyze Surface Water Sample Analysis	.08	.03			Surface Water Sample Analysis

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
.09	.03	.01				Organic	.08	.03	.01		Organic
.09	.03	.02				Inorganic	.08	.03	.02		Inorganic
.09	.03	.03				Radiochemistry	.08	.03	.03		Radiochemistry
.09	.04	.00				Analyze Soil / Sediment Sample Analysis	.08	.04			Soil / Sediment Sample Analysis
.09	.04	.01				Organic	.08	.04	.01		Organic
.09	.04	.02				Inorganic	.08	.04	.02		Inorganic
.09	.04	.03				Radiochemistry	.08	.04	.03		Radiochemistry
.09	.05	.00				Analyze Waste (Gas) Samples	.08	.05			Gas Waste Sample Analysis
.09	.05	.01				Organic	.08	.05	.01		Organic
.09	.05	.02				Inorganic	.08	.05	.02		Inorganic
.09	.05	.03				Radiochemistry	.08	.05	.03		Radiochemistry
.09	.06	.00				Analyze Waste (Liquid) Samples	.08	.06			Liquid Material/Waste Sample Analysis
.09	.06	.01				Organic	.08	.06	.01		Organic
.09	.06	.02				Inorganic	.08	.06	.02		Inorganic
.09	.06	.03				Radiochemistry	.08	.06	.03		Radiochemistry
.09	.07	.00				Analyze Waste (Solid) Samples	.08	.07			Solid Material/Waste Sample Analysis
.09	.07	.01				Organic	.08	.07	.01		Organic
.09	.07	.02				Inorganic	.08	.07	.02		Inorganic
.09	.07	.03				Radiochemistry	.08	.07	.03		Radiochemistry
.09	.08	.00				Analyze Biota Samples	.08	.08			Biota Sample Analysis
.09	.08	.01				Organic	.08	.08	.01		Organic
.09	.08	.02				Inorganic	.08	.08	.02		Inorganic
.09	.08	.03				Radiochemistry	.08	.08	.03		Radiochemistry
.09	.09					Analyze Bioassay Sample	.08	.09			Bioassay Sample Analysis
.09	.10					Perform Bioaccumulation Studies	.08	.10			Bioaccumulation Studies
.09	.11	.00				Perform Temporary/Mobile Laboratory Analysis	.08	.00			SAMPLE ANALYSIS
.09	.11	.01				Air / Gas Sample Analysis	.08	.11			Mobile - Air / Gas Sample Analysis
.09	.11	.02				Mobile - Groundwater Sample Analysis	.08	.12			Mobile - Groundwater Sample Analysis
.09	.11	.03				Surface Water Sample Analysis	.08	.13			Mobile - Surface Water Sample Analysis
.09	.11	.04				Soil / Sediment Sample Analysis	.08	.14			Mobile - Soil / Sediment Sample Analysis
.09	.11	.05				Gas Waste Sample Analysis	.08	.15			Mobile - Gas Waste Sample Analysis
.09	.11	.06				Liquid Waste Sample Analysis	.08	.16			Mobile - Liquid Waste Sample Analysis
.09	.11	.07				Solid Waste Sample Analysis	.08	.17			Mobile - Solid Waste Sample Analysis
.09	.11	.08				Biota Sample Analysis	.08	.18			Mobile - Biota Sample Analysis
.09	.11	.09				Bioassay Sample Analysis	.08	.09			Bioassay Sample Analysis
.09	.11	.10				Bioaccumulation Studies	.08	.10			Bioaccumulation Studies
.10	.00					ANALYTICAL SUPPORT/SAMPLE MGMT/DATA VALIDATION	.09	.00			SAMPLE MANAGEMENT/DATA VALIDATION/DATA EVALUATION
.10	.01	.00				Prepare and Ship Environmental Samples	.09	.01			Prepare and Ship Environmental Samples
.10	.01	.01				Groundwater Samples	.09	.01	.01		Groundwater Samples
.10	.01	.02				Surface and Subsurface Soil Samples	.09	.01	.02		Surface and Subsurface Soil Samples
.10	.01	.03				Surface Water & Sediment Samples	.09	.01	.03		Surface Water & Sediment Samples
.10	.01	.04				Air Samples	.09	.01	.04		Air Samples
.10	.01	.05				Biota Samples	.09	.01	.05		Biota Samples
.10	.02					Coordinate With Sample Mgt Personnel/Regulators	.09	.02			Coordinate with Sample MGT Personnel / Regulators
.10	.03					Implement EPA-Approved Laboratory QA Program	.09	.03			Implement EPA-Approved Laboratory QA Program
.10	.04	.00				Provide Sample Management	.09	.04			Provide Sample Management
.10	.04	.01				Chain of Custody	.09	.04	.01		Chain of Custody
.10	.04	.02				Sample Retention	.09	.04	.02		Sample Retention
.10	.04	.03				Data Storage	.09	.04	.03		Data Storage
.10	.05	.00				Perform Data Validation	.09	.06			Perform Data Validation
.10	.05	.01				Review Analysis Results to Validation Criteria	.09	.06	.01		Review Analysis Results to Validation Criteria

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management	
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE	
.10	.05	.02				Provide Written Documentation of Validation Efforts	.09	.06	.02		Provide Written Documentation of Validation Efforts	
.11	.00					DATA EVALUATION	.09	.07			Data Usability Evaluation / Field QA / QC	
.11	.01					Data Usability Evaluation/Field QA/QC	.09	.07			Data Usability Evaluation / Field QA / QC	
.11	.02	.00				Data Reduction, Tabulation and Evaluation	.09	.08			Data Reduction, Tabulation and Evaluation/Analysis	
.11	.02	.01				Evaluate Geological Data (Soils/Sediments)	.09	.08	.01		Evaluate Geological Data (Soils / Sediments)	
.11	.02	.02				Evaluate Air Data	.09	.08	.02		Evaluate Air Data	
.11	.02	.03				Evaluate Hydrogeological Data - Groundwater	.09	.08	.03		Devaluate Hydrogeological Data -Groundwater	
.11	.02	.04				Evaluate Hydrogeological Data - Surface Water	.09	.08	.04		Evaluate Hydrogeological Data - Surface Water	
.11	.02	.05				Evaluate Waste Data	.09	.08	.05		Evaluate Waste Data	
.11	.02	.06				Evaluate Geophysical Data	.09	.08	.06		Evaluate Geophysical Data	
.11	.02	.07				Evaluate Ecological Data	.09	.08	.07		Evaluate Ecological Data	
.11	.03					Contaminant Fate and Transport Modeling	.09	.09	.01		Contaminant Concentration, Location, Fate and Transport Modeling	
.11	.04					Other Modeling	.09	.09	.05		Other Modeling	
.11	.05					Document Data Evaluation	.09	.10			Document Data Evaluation	
.12	.00					RISK ASSESSMENT	.04	.00			STUDIES/DESIGN & DOCUMENTATION	
.12	.01	.00				Human Health Risk Assessment	.04	.02			Human Health Risk Assessment	
.12	.01	.01				Hazard Identification (Sources)	.04	.02	.01		Hazard Identification (Sources)	
.12	.01	.02				Dose-Response Assessment	.04	.02	.02		Dose-response Assessment	
.12	.01	.03				Prepare Conceptual Exp./Pathway Analysis	.04	.02	.03		Prepare Conceptual Exposure/Pathway Analysis	
.12	.01	.04				Characterization of Site and Potential Receptors	.04	.02	.04		Characterization of Site and Potential Receptors	
.12	.01	.05				Exposure Assessment	.04	.02	.05		Exposure Assessment	
.12	.01	.06				Risk Characterization	.04	.02	.06		Risk Characterization	
.12	.01	.07				Limitations/Uncertainties	.04	.02	.07		Limitations / Uncertainties	
.12	.01	.08				Site Conceptual Model	.04	.02	.08		Site Conceptual Model	
.12	.02	.00				Ecological Risk Assessment	.04	.03			Ecological Risk Assessment	
.12	.02	.01				Hazard Identification (Sources)	.04	.03	.01		Hazard Identification (Sources)	
.12	.02	.02				Prepare Conceptual Exp./Pathway Analysis	.04	.03	.03		Prepare Conceptual Exposure/Pathway Analysis	
.12	.02	.03				Characterization of Site and Potential Receptors	.04	.03	.04		Characterization of Site and Potential Receptors	
.12	.02	.04				Select Chemicals, Indicator Species, & End Points	.04	.03	.05		Select Chemicals, Indicator Species, & End Points	
.12	.02	.05				Exposure Assessment	.04	.03	.06		Exposure Assessment	
.12	.02	.06				Toxicity Assessment/Ecological Effects Assessment	.04	.03	.07		Toxicity Assessment / Ecological Effects Assessment	
.12	.02	.07				Risk Characterization	.04	.03	.08		Risk Characterization	
.12	.02	.08				Limitations/Uncertainties	.04	.03	.09		Limitations / Uncertainties	
.12	.02	.09				Site Conceptual Model	.04	.03	.10		Site Conceptual Model	
.12	.03					Document Risk (Hrs)	.04	.01			Hazardous, Toxic, and Radioactivity Ranking System	
.13	.00					DOCUMENT ASSESSMENT	.04	.04			Risk Assessment Documentation	
.13	.01	.00				Compose Draft Report(S)	.04	.04	.01		Compose Draft Reports	
.13	.01	.01				Perform Data Compilation	.04	.04	.01	.01	Perform data compilation	
.13	.01	.02				Present Data (Format Tables & Prepare Graphics)	.04	.04	.01	.02	Present data (format tables & prepare graphics)	
.13	.01	.03				Site Background	.04	.04	.01	.03	Site background	
.13	.01	.03				Site Background	.04	.05	.01		Site Background	
.13	.01	.04				Investigation	.04	.04	.01	.04	Investigation	
.13	.01	.04				Investigation	.04	.05	.02	.00	Investigation	
.13	.01	.05				Site Characteristics	.04	.04	.01	.05	Site characteristics	
.13	.01	.05				Site Characteristics	.04	.05	.03	.00	Site Characteristics	
.13	.01	.06				Nature and Extent of Contamination	.04	.04	.01	.06	Nature and extent of contamination	
.13	.01	.06				Nature and Extent of Contamination	.04	.05	.04	.00	Nature & Extent of Contamination	
.13	.01	.07				Fate and Transport	.04	.04	.01	.07	Fate and transport	
.13	.01	.07				Fate and Transport	.04	.05	.05	.00	Fate & Transport	
.13	.01	.08				Summary and Conclusions	.04	.04	.01	.08	Summary and conclusions	
.13	.01	.08				Summary and Conclusions	.04	.05	.06	.00	Summary & Conclusions	

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE				Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th					2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
.13	.01	.09				Reproduction / Distribution				.04	.04	.01	.09	<i>Reproduction/distribution</i>
.13	.02					Respond to Comments				.04	.04	.02	.00	Respond to Comments
.13	.03	.00				Finalize Report				.04	.04	.03	.00	Finalize Report
.13	.03	.01				Reproduction / Distribution				.04	.04	.03	.01	<i>Reproduction/distribution</i>
.14	.00					ALTERNATIVE EVALUATION (RA / CM)				.04	.06			Develop Remedial Alternatives
.14	.01	.00				Develop Remedial Alternatives				.04	.06			Develop Remedial Alternatives
.14	.01	.01				Establish Remedial Action Objectives				.04	.06	.01		Establish Remedial Action Objectives
.14	.01	.02				Establish General Response Actions				.04	.06	.02		Establish General Response Actions
.14	.01	.03				ID Preliminary Alts				.04	.06	.03		ID Preliminary Alternatives
.14	.01	.04				Identify & Screen Applicable Remedial Technologies				.04	.06	.04		Identify & Screen Applicable Remedial Technologies
.14	.01	.05				Identify Treatability Study Requirement				.04	.06	.06		Identify Treatability Study Requirement
.14	.01	.06				Assemble Technologies into Actions				.04	.06	.07		Assemble Technologies Into Actions
.14	.01	.07				Develop Conceptual Site Model				.04	.06	.08		Develop Conceptual Site Model
.14	.02	.00				Screen Remedial Alternatives				.04	.07			Screen Remedial Alternatives
.14	.02	.01				Screen Alts Based on Selected Criteria				.04	.07	.01		Screen Alternatives Base on Selected Criteria
.14	.02	.06				ID / Evaluate Action-Specific ARARS				.04	.07	.02		ID / Evaluate Action-Specific ARARS
.14	.02	.07				Refine List of Alternatives				.04	.07	.03		Refine List of Alternatives
.14	.03	.00				Evaluate Alternatives				.04	.08			Evaluate Alternatives
.14	.03	.01				Overall Protection of Human Health & Environment				.04	.08	.01		Overall Protection of Human Health & Environment
.14	.03	.02				Compliance With ARARS				.04	.08	.02		Compliance with ARARs
.14	.03	.03				Long-Term Effectiveness and Permanence				.04	.08	.03		Long-Term Effectiveness and Permanence
.14	.03	.04				Reduction in Toxicity, Mobility or Volume				.04	.08	.04		Reduction in Toxicity, Mobility or Volume
.14	.03	.05				Short-Term Effectiveness				.04	.08	.05		Short-Term Effectiveness
.14	.03	.06				Implementability - Technical and Administrative				.04	.08	.06		Implementability - Technical And Administrative
.14	.03	.07				Cost				.04	.08	.07		Cost
.14	.03	.08				State Acceptance				.04	.08	.08		State Acceptance
.14	.03	.09				Community Acceptance				.04	.08	.09		Community Acceptance
.14	.04	.00				Refinement of Alternatives				.04	.09			Refinement of Alternatives
.14	.04	.01				Priority Model Scoring				.04	.09	.01		Priority Model Scoring
.14	.04	.02				Selection of Remedy / Documentation				.04	.09	.02		Selection of Remedy / Documentation
.15	.00					TREATABILITY STUDIES				.10	.00			TREATABILITY/RESEARCH & DEVELOPMENT
.15	.01					Literature Search				.10	.01			Literature Search
.15	.02					Develop Treatability Work Plan				.10	.03			Develop Treatability Work Plan
.15	.03	.00				Bench Test				.10	.05			Bench Test
.15	.03	.01				Provide Test Facility and Equipment				.10	.05	.01		Provide Test Facility and Equipment
.15	.03	.02				Provide Vendor & Analytical Service				.10	.05	.02		Provide Vendor & Analytical Service
.15	.03	.03				Test and Operate Equipment				.10	.05	.03		Test and Operate Equipment
.15	.03	.04				Retrieve Sample for Testing				.10	.05	.04		Retrieve Sample for Testing
.15	.03	.05				Laboratory Analysis				.10	.05	.05		Laboratory Analysis
.15	.03	.06				Characterize and Dispose of Residuals				.10	.05	.06		Characterize and Dispose of Residuals
.15	.04	.00				Pilot Scale Test				.10	.06			Pilot Scale Test
.15	.04	.01				Provide Test Facility and Equipment				.10	.06	.01		Provide Test Facility and Equipment
.15	.04	.02				Provide Vendor & Analytical Service				.10	.06	.02		Provide Vendor & Analytical Service
.15	.04	.03				Test and Operate Equipment				.10	.06	.03		Test and Operate Equipment
.15	.04	.04				Retrieve Sample for Testing				.10	.06	.04		Retrieve Sample for Testing
.15	.04	.05				Laboratory Analysis				.10	.06	.05		Laboratory Analysis
.15	.04	.06				Characterize and Dispose of Residuals				.10	.06	.06		Characterize and Dispose of Residuals
.15	.05	.00				Field Test				.10	.07			Field Test
.15	.05	.01				Provide Test Facility and Equipment				.10	.07	.01		Provide Test Facility and Equipment
.15	.05	.02				Provide Vendor & Analytical Service				.10	.07	.02		Provide Vendor & Analytical Service
.15	.05	.03				Test and Operate Equipment				.10	.07	.03		Test and Operate Equipment

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
.15	.05	.04				Retrieve Sample for Testing	.10	.07	.04		Retrieved Sample For Testing
.15	.05	.05				Laboratory Analysis	.10	.07	.05		Laboratory Analysis
.15	.05	.06				Characterize and Dispose of Residuals	.10	.07	.06		Characterize and Dispose of Residuals
.15	.06	.00				Document Treatability Study	.10	.11			Document Treatability Study
.15	.06	.01				Compose Draft Report	.10	.11	.01		Compose Draft Report
.15	.06	.02				Respond To Comments / Finalize Report	.10	.11	.02		Respond to Comments / Finalize Report
.15	.06	.03				Reproduction / Distribution	.10	.11	.03		Reproduction / Distribution
.16	.00					DOCUMENT FS (CMS)	.04	.10			Document Feasibility Study (FS or RCRA - CMS)
.16	.01	.00				Compose Draft FS (CMS) Report	.04	.10	.01	.00	Compose Draft FS (CMS) Report
.16	.01	.01				Perform Data Compilation	.04	.10	.01	.01	<i>Perform data compilation</i>
.16	.01	.02				Present Data (Format Tables & Prepare Graphics)	.04	.10	.01	.02	<i>Present data (format tables & prepare graphics)</i>
.16	.01	.03				Feasibility Study Objectives	.04	.10	.01	.03	<i>Feasibility study objectives</i>
.16	.01	.04				Remedial Objectives	.04	.10	.01	.04	<i>Remedial objectives</i>
.16	.01	.05				General Response Actions	.04	.10	.01	.05	<i>General response actions</i>
.16	.01	.06				ID and Screening of Remedial Technologies	.04	.10	.01	.06	<i>ID and screening of remedial technologies</i>
.16	.01	.07				Remedial Alternatives Description	.04	.10	.01	.07	<i>Remedial alternatives description</i>
.16	.01	.08				Detailed Analysis of Remedial Alternatives	.04	.10	.01	.08	<i>Detailed analysis of remedial technologies</i>
.16	.01	.09				Develop Engineering Cost Analysis of Selected Alt	.04	.10	.01	.09	<i>Develop engineering cost analysis of selected alternative</i>
.16	.01	.10				Summary and Conclusions	.04	.10	.01	.10	<i>Summary and conclusions</i>
.16	.01	.11				Reproduction / Distribution	.04	.10	.01	.11	<i>Reproduction/distribution</i>
.16	.02					Respond to Comments	.04	.10	.02		Respond to Comments
.16	.03	.00				Finalize Report	.04	.10	.03		Finalize Report
.16	.03	.01				Reproduction / Distribution	.04	.10	.03	.01	<i>Reproduction / distribution</i>
.17	.00					POST ASSESSMENT SUPPORT	.02	.01	.04		Post Studies and Design Support
.17	.01					Attend Public Meetings/Hearings/Meetings with PRP's	.02	.01	.01	.09	<i>Attend public meetings/hearing/meetings with PRP's</i>
.17	.02					Prepare Presentation Materials	.02	.03	.01	.00	Support Meetings with Regulators
.17	.03	.00				Assist in Preparation of Documents	.02	.01	.01	.10	<i>Prepare reports/participate in reviews</i>
.17	.03	.01				Proposed Plan	.02	.01	.04	.02	<i>Provide technical assistance - proposed plan and ROD</i>
.17	.03	.02				Responsiveness Summary	.02	.01	.04	.01	<i>Provide technical assistance - responsiveness summary</i>
.17	.03	.03				Decision Document	.02	.01	.04	.02	<i>Provide technical assistance - proposed plan and ROD</i>
.17	.04					Prepare Feasibility Study Addendum	.04	.10	.04		Prepare Feasibility Study Addendum
.18	.00					ENFORCEMENT SUPPORT	.02	.11			Enforcement
.18	.01					PRP Searches / Field Investigations	.02	.11	.01		PRP Searches / Field Investigations
.18	.02	.00				PRP Negotiation Support	.02	.11	.02		PRP Negotiation Support
.18	.02	.01				Attend Negotiation Sessions and Meetings	.02	.11	.02	.01	Attend Negotiation Sessions and Meetings
.18	.02	.02				Review of PRP Documents	.02	.11	.02	.02	Review of PRP Documents
.18	.02	.03				Document Findings	.02	.11	.02	.03	Document Findings
.19						IDENTIFICATION OF LONG LEAD ITEMS	.02	.05	.01		Identify Long Lead Items
.20	.00					DESIGN PREPARATION (6% Limit)	.04	.11			Environmental Restoration Project Design
.20	.01	.00				Preliminary Design	.04	.11	.01		Preliminary Design
.20	.01	.01				Recommend Project Delivery Strategy and Schedule	.04	.11	.01	.01	<i>Recommend project delivery strategy and scheduling</i>
.20	.01	.02				Prepare Preliminary Construction Schedule	.04	.11	.01	.02	<i>Prepare preliminary construction schedule</i>
.20	.01	.03				Prepare Specifications Outline	.04	.11	.01	.03	<i>Prepare specifications outline</i>
.20	.01	.04				Prepare Preliminary Drawings	.04	.11	.01	.04	<i>Prepare preliminary drawings</i>
.20	.01	.05				Prepare Basis of Design Report/Design Analysis	.04	.11	.01	.05	<i>Prepare basis of design report/design analysis</i>
.20	.01	.06				Prepare Preliminary Cost Estimate	.04	.11	.01	.06	<i>Prepare preliminary cost estimate</i>
.20	.02	.00				Intermediate Design	.04	.11	.02		Intermediate Design
.20	.02	.01				Update Construction Schedule	.04	.11	.02	.01	<i>Update construction schedule</i>
.20	.02	.02				Prepare Preliminary Specifications	.04	.11	.02	.02	<i>Prepare preliminary specifications</i>
.20	.02	.03				Prepare Intermediate Drawings	.04	.11	.02	.03	<i>Prepare intermediate drawings</i>
.20	.02	.04				Prepare Basis of Design Report/Design Analysis	.04	.11	.02	.04	<i>Prepare basis of design report/design analysis</i>

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
.20	.02	.05				Prepare Revised Cost Estimate	.04	.11	.02	.05	Prepare revised cost estimate
.20	.02	.06				Participate in Intermediate Design Review/Briefing	.04	.11	.02	.06	Participate in intermediate design review/briefing
.20	.03	.00				Pre-Final / Final Design	.04	.11	.03		Pre-Final / Final Design
.20	.03	.01				Prepare Pre-Final Design Specifications	.04	.11	.03	.01	Prepare pre-final design specifications
.20	.03	.02				Prepare Pre-Final Drawings	.04	.11	.03	.02	Prepare pre-final drawings
.20	.03	.03				Prepare Basis of Design Report/Design Analysis	.04	.11	.03	.03	Prepare basis of design report/design analysis
.20	.03	.04				Prepare Revised Cost Estimate	.04	.11	.03	.04	Prepare revised cost estimate
.20	.03	.05				Participate In Pre-Final/Final Design Review	.04	.11	.03	.05	Participate in pre-final/final design review
.20	.03	.06				Prepare 100% Design Submittal	.04	.11	.03	.06	Prepare 100% design submittal
.21	.00					VALUE ENGINEERING / SPECIAL STUDIES	.04	.14			Value Engineering/Special Studies
.21	.01					Perform VE Screening	.04	.14	.01		Perform VE Screening
.21	.02					Perform Value Engineering Study	.04	.14	.02		Perform Value Engineering Study
.21	.03					Document VE Study Results	.04	.14	.03		Document VE Study Results
.21	.04	.00				Develop Land Acquisition/Easement Requirements	.04	.14	.04		Develop Land Acquisition / Easement Requirements
.21	.04	.01				Provide Technical Support in Land Acquisition	.04	.14	.04	.01	Provide technical support in land acquisition
.21	.05					Participate in Biddability/Constructability Reviews	.04	.14	.05		Participate in Biddability / Constructability Reviews
.22	.00					POST DESIGN SUPPORT	.02	.05			Post Design Support
.22	.01	.00				Perform Prebid (Pre-Solicitation) Activities	.02	.05	.02		Perform Prebid (Pre-Solicitation) Activities
.22	.01	.01				Support Preparation of Solicitation Package	.02	.05	.02	.01	Support preparation of solicitation package
.22	.01	.02				Printing and Distribution of Contract Documents	.02	.05	.02	.02	Printing and distribution of contract documents
.22	.01	.03				Advertising/Soliciting of Bids	.02	.05	.02	.03	Advertising/soliciting of bids
.22	.01	.04				Issuing Addenda	.02	.05	.02	.04	Issuing addenda
.22	.01	.05				Prebid(Pre-Solicitation) Meetings	.02	.05	.02	.05	Pre-bid (pre-solicitation) meetings
.22	.01	.06				Resolution of Bidder (Offeror) Inquiries	.02	.05	.02	.06	Resolution of bidder (offeror) inquiries
.22	.01	.07				On-Site Visits	.02	.05	.02	.07	On-site visits
.22	.02	.00				Perform Preaward Activities	.02	.05	.03		Perform Pre-award Activities
.22	.02	.01				Receipt of Bids (Offers)	.02	.05	.03	.01	Receipt of bids (offers)
.22	.02	.02				Determination of Responsive, Responsible Bidders	.02	.05	.03	.02	Determination of responsive, responsible bidders
.22	.02	.03				Bid Tabulation	.02	.05	.03	.03	Bid tabulation
.22	.02	.04				Bid Analysis	.02	.05	.03	.04	Bid analysis
.22	.02	.05				Receipt of Follow-Up Items From Low. Resp. Bidder	.02	.05	.03	.05	Receipt of follow-up items from low responsible bidder
.22	.02	.06				Review of Eeo, MBE Require., Sdb Subcontr. Plans	.02	.05	.03	.06	Review of EEO, MBE requirements, SDB subcontractor plans
.22	.02	.07				Reference Checks	.02	.05	.03	.07	Reference checks
.22	.02	.08				Request for Consent from EPA	.02	.05	.03	.08	Request for consent from EPA
.22	.02	.09				Support Preparation of Contract Documents	.02	.05	.03	.09	Support preparation of contract documents
.23	.00					A/E SUPPORT DURING REMEDIAL ACTION	.02	.07			A/E Support
.23	.01					Submittal Reviews	.02	.07	.01		Submittal Reviews
.23	.02					Site Inspection	.02	.07	.02		Site Inspection
.23	.03					Document Activities	.02	.07	.03		Document Activities
.23	.04					Participate In Construction Management Meetings	.02	.07	.04		Participate in Construction Management Meetings
			.01	.00		MOBILIZATION AND PREPARATORY WORK	.05	.01			Mobilization
			.01	.00		MOBILIZATION AND PREPARATORY WORK	.05	.51			General Requirements
			.01	.01	.01	Transport Vehicles Ownership/Operation	.05	.01	.01	.01	Transport vehicles, equipment, drivers and operators
			.01	.01	.02	Driver	.05	.01	.01	.01	Transport vehicles, equipment, drivers and operators
			.01	.01	.03	Manifest	.05	.01	.01	.02	Manifests, tolls, permits for mobilization
			.01	.01	.04	Tolls	.05	.01	.01	.02	Manifests, tolls, permits for mobilization
			.01	.01	.05	Permits	.05	.01	.01	.02	Manifests, tolls, permits for mobilization
			.01	.01	.06	Escort Vehicles Ownership and Operation	.05	.01	.01	.03	Escort vehicles ownership and operation
			.01	.01	.07	Construction Equipment Ownership/Operation	.05	.01	.01	.04	Construction equipment operators
			.01	.01	.08	Equipment Operators	.05	.01	.01	.01	Transport vehicles, equipment, drivers and operators
			.01	.01	.09	Initial Assembly and Setup	.05	.01	.01	.05	Setup and assembly of equipment for operations

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE				Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th					2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.01	.01		Mobilization of Construction Equipment and Facilities				.05	.01	.01		Mobilization of Construction Equipment & Facilities
			.01	.02	.01	Relocation of Supervisory Personnel				.05	.01	.02	.01	<i>Relocation of supervisory personnel</i>
			.01	.02	.02	Site Visits/Meetings (During RA)				.02	.01	.01	.07	<i>Conduct site visit</i>
			.01	.02		Mobilization of Personnel				.05	.01	.02		Mobilization of Personnel
			.01	.03	.01	Chemical Data Acquisition Plan (Sampling and Analysis Plan)				.03	.02			Chemical Data Acquisition Plan
			.01	.03	.01	Chemical Data Acquisition Plan (Sampling and Analysis Plan)				.03	.03			Sampling and Analysis Plan
			.01	.03	.02	Spill Control Plan				.03	.12	.01		Spill Control Plan
			.01	.03	.03	Erosion Control Plan				.03	.12	.02		Erosion Control Plan
			.01	.03	.04	Environmental Protection Plan				.03	.12	.03		Environmental Protection Plan
			.01	.03	.05	Sediment Control Plan				.03	.12	.04		Sediment Control Plan
			.01	.03	.06	Pollution Control Plan				.03	.05			Pollution Control and Mitigation Plan
			.01	.03	.07	Letter of Commitment				.03	.12	.05		Letter of Commitment
			.01	.03	.08	Site Safety and Health Plan				.03	.04			Health and Safety Plan
			.01	.03	.09	Air Monitoring Plan				.03	.12	.06		Air Monitoring Plan
			.01	.03	.10	Traffic Control Plan				.03	.12	.07		Traffic Control Plan
			.01	.03	.11	Site Security Plan				.03	.12	.08		Site Security Plan
			.01	.03	.12	Contaminated Water Storage and Treatment Plan				.03	.12	.09		Contaminated Water Storage and Treatment Plan
			.01	.03	.13	General Site Work Plan				.03	.12	.10		General Site Work Plan
			.01	.03	.14	Construction Quality Control Plan				.03	.12	.11		Construction Quality Control Plan
			.01	.03	.15	Material Handling/Transportation/Disposal Plan				.03	.08			Transportation and Disposal Plan (Waste Management Plan)
			.01	.03	.16	Asbestos Hazard Abatement Plan				.03	.12	.12		Asbestos Hazard Abatement Plan
			.01	.03	.17	Phase Out Report				.03	.12	.13		Phase-Out Report
			.01	.03	.18	Accident Prevention Plan				.03	.12	.14		Accident Prevention Plan
			.01	.03	.19	Phase Safety Plan				.03	.12	.15		Phase Safety Plan
			.01	.03	.20	Emergency Response Plan				.03	.13			Emergency Response Plans/Report/Approval
			.01	.03	.21	Trail Burn Plan				.03	.12	.16		Trail Burn Plan
			.01	.03	.22	Sampling Plan				.03	.03			Sampling and Analysis Plan
			.01	.03	.23	Property Equipment Plan				.03	.12	.17		Property Equipment Plan
			.01	.03	.24	Operational Plan				.03	.14			Environmental Workplans
			.01	.03	.25	Location Survey and Mapping Plan				.03	.12	.18		Location Survey and Mapping Plan
			.01	.03	.26	Work, Data, & Cost Management Plan				.03	.12	.19		Work, Data, and Cost Management Plan
			.01	.03	.27	Chemical Accident or Incident Response and Assistance Plan				.03	.12	.20		Chemical Accident or Incident Response and Assistance Plan
			.01	.03	.28	Performance and Compliance Monitoring Plan				.03	.12	.21		Performance and Compliance Monitoring Plan
			.01	.03	.29	Site Safety Submission				.03	.12	.22		Site Safety Submission
			.01	.03	.30	Other Technology Plans				.03	.12	.23		Other Technology Plans
			.01	.03	.31	Experience Record				.03	.12	.24		Experience Record
			.01	.03	.32	Financial Statement				.03	.12	.25		Financial Statement
			.01	.03	.33	Small Business Plan				.03	.12	.26		Small Business Plan
			.01	.03	.34	Subcontracting Plan				.03	.12	.27		Subcontracting Plan
			.01	.03	.35	Construction Scheduling (CPM)				.02	.01	.01	.04	<i>Engineering network analysis</i>
			.01	.03	.36	Training Certifications				.01	.02	.01		Training/Certification
			.01	.03	.37	Medical Surveillance Certification				.01	.02	.01		Training/Certification
			.01	.03	.38	Permits				.02	.03	.05		Regulatory Permitting (e.g., RCRA Part B Permit)
			.01	.03	.39	Patent Fees				.03	.12	.28		Patent Fees
			.01	.03		Submittals/Implementation Plans				.03	.12			Implementation Plans
			.01	.04	.01	Office Trailers				.05	.01	.03	.01	<i>Office trailers</i>
			.01	.04	.02	Storage Facility				.05	.01	.03	.04	<i>Storage facilities and warehouses</i>
			.01	.04	.03	Observation Tower				.05	.01	.03	.10	<i>Observation towers</i>
			.01	.04	.04	Decontamination Facility for Personnel				.05	.01	.03	.11	<i>Decontamination facilities for personnel</i>
			.01	.04	.05	Decontamination Facility for Equipment and Vehicles				.05	.01	.03	.12	<i>Decontamination facilities for construction equipment and vehicles</i>
			.01	.04	.06	Temporary Cover Structure Over Contaminated Area				.05	.01	.03	.13	<i>Temporary cover structure over contaminated area</i>

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.01	.04	.07	Lunch/Break Trailer	.05	.01	.03	.02	Lunch/break trailer
			.01	.04	.08	Laundry Facilities	.05	.01	.03	.05	Laundry facilities
			.01	.04	.09	Emergency Medical Trailer/Facilities	.05	.01	.03	.03	Emergency medical facilities trailers
			.01	.04	.10	Toilet	.05	.01	.03	.06	Toilets
			.01	.04	.11	Barricades	.05	.01	.03	.14	Barricades
			.01	.04	.12	Equipment Maintenance Shop	.05	.01	.03	.08	Maintenance shop
			.01	.04	.13	Warehouse	.05	.01	.03	.04	Storage facilities and warehouses
			.01	.04	.14	Government Trailers	.01	.06			Government - Program Infrastructure
			.01	.04	.15	Guard Houses	.05	.01	.03	.17	Guard houses
			.01	.04	.16	Truck Scales	.05	.01	.03	.09	Truck scales
			.01	.04	.17	Wastewater Holding Tanks	.05	.01	.03	.18	Wastewater holding tanks
			.01	.04	.18	Fire Suppression Systems	.05	.01	.03	.15	Fire suppression systems
			.01	.04	.19	POL Dispensing Station	.05	.01	.03	.16	POL dispensing station
			.01	.04	.20	Photographic Laboratory	.05	.01	.03	.07	Temporary laboratory
			.01	.04	.21	Housing	.05	.01	.03	.19	Housing
			.01	.04	.22	Shop Facility	.05	.01	.03	.08	Maintenance shop
			.01	.04	.23	Aggregate Surfacing	.05	.01	.03	.20	Aggregate surfacing
			.01	.04	.24	Security Fencing	.05	.01	.03	.21	Security fencing
			.01	.04	.25	Roads and Parking	.05	.01	.03	.22	Roads and parking
			.01	.04	.26	Culverts	.05	.01	.03	.23	Culverts
			.01	.04	.27	Walks	.05	.01	.03	.24	Walks
			.01	.04	.28	Signs	.05	.01	.03	.25	Signs
			.01	.04	.29	Grading	.05	.01	.03	.26	Grading
			.01	.04	.30	Erosion Control	.05	.01	.03	.27	Erosion control
			.01	.04		Setup/Construct Temporary Facilities	.05	.01	.03		Setup / Construct Temporary Facilities
			.01	.04		Setup/Construct Temporary Facilities	.05	.51	.03		Temporary Construction of Roads, Walks, Fences
			.01	.05	.01	Site Lighting	.05	.01	.04	.01	Site lighting
			.01	.05	.02	Power Connection/Distribution	.05	.01	.04	.02	Power connection/distribution
			.01	.05	.03	Telephone/Communication Distribution	.05	.01	.04	.03	Telephone/communications hook-up
			.01	.05	.04	Water Connection/Distribution	.05	.01	.04	.04	Water connection/distribution
			.01	.05	.05	Sewer Connection/Distribution	.05	.01	.04	.05	Sewer connection/distribution
			.01	.05	.06	Gas Connection/Distribution	.05	.01	.04	.06	Gas connection/distribution
			.01	.05		Construct Temporary Utilities	.05	.01	.04		Temporary Utilities
			.01	.06	.01	Roads	.05	.01	.07	.01	Roads
			.01	.06	.02	Structures	.05	.01	.07	.02	Structures
			.01	.06	.03	Utilities	.05	.01	.07	.03	Utilities
			.01	.06		Temporary Relocation/Roads/Structures/Utilities	.05	.01	.07		Temporary Relocations/Roads/Structures/Utilities
			.01	.07	.01	Concrete batch	.05	.01	.05	.01	Concrete batch
			.01	.07	.02	Block	.05	.01	.05	.02	Block
			.01	.07	.03	Precast	.05	.01	.05	.03	Precast
			.01	.07	.04	Asphalt	.05	.01	.05	.04	Asphalt
			.01	.07	.05	Quarry crusher/screens	.05	.01	.05	.05	Quarry crusher/screens
			.01	.07		Construction Plant Erection	.05	.01	.05		Construct Plant Erection
			.01	.08		Institutional Controls	.02	.04			Institutional Controls
			.01	.09		Alternate Water Supply	.05	.26			Water Distribution
			.01	.10		Population Relocation	.05	.37			Population Relocation
			.02	.00		MONITORING, SAMPLING, TESTING, AND ANALYSIS	.07	.00			INVESTIGATIONS & MONITORING/SAMPLE COLLECTION
			.02	.00		MONITORING, SAMPLING, TESTING, AND ANALYSIS	.08	.00			SAMPLE ANALYSIS
			.02	.01	.01	Meteorological Monitoring Station	.07	.02	.01		Meteorological Monitoring Station
			.02	.01	.02	Instrument Shelter	.07	.02	.02		Instrument Shelter
			.02	.01		Meteorological Monitoring	.07	.02			Meteorological Monitoring

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.02	.02	.01	Area Monitoring	.01	.02	.08	.06	General safety monitor
			.02	.02	.02	Personal Dosimetry	.01	.02	.08	.01	Personnel dosimetry
			.02	.02	.03	Personnel Radiation Counting	.01	.02	.08	.02	Personnel radiation counting
			.02	.02	.04	Dosimetry Systems	.01	.02	.08	.08	Dosimetry system (electronic and thermoluminescence dosimeter reader)
			.02	.02	.05	Diagnostic, Quality Assurance, and Calibration	.01	.02	.08	.09	Instrument calibration, health and safety QA/QC
			.02	.02		Radiation Monitoring	.07	.03			Site Contaminant Surveys / Radiation Monitoring
			.02	.03		Air Monitoring and Sampling	.07	.08			Air Monitoring and Sampling
			.02	.04		Monitoring Wells	.07	.15			Monitoring Well Systems
			.02	.05	.00	Sampling Surface Water/Ground Water/Liquid Waste	.07	.09			Groundwater Sampling and Monitoring
			.02	.05	.00	Sampling Surface Water/Ground Water/Liquid Waste	.07	.10			Surface Water Sampling
			.02	.05	.00	Sampling Surface Water/Ground Water/Liquid Waste	.07	.13			Material/Waste Sampling
			.02	.05	.01	Surface Water	.07	.10	.01		Sample Collection - Surface Water
			.02	.05	.02	Ground Water	.07	.09	.02		Sample Collection -Groundwater
			.02	.05	.03	Liquid Waste	.07	.13	.02		Sample Collection - Liquid
			.02	.05	.04	Treatment Process Effluents	.07	.13	.9x		Other
			.02	.05	.05	Sample Shipping and Handling	.09	.01			Prepare and Ship Environmental Samples
			.02	.06	.00	Sampling Soil and Sediment	.07	.11			Soil / Sediment Sampling
			.02	.06	.01	Surface Soil	.07	.11	.01		Surface Soil Sample Collection
			.02	.06	.02	Sub-surface Soil	.07	.11	.02		Subsurface Soil Sample Collection
			.02	.06	.03	Sediment/Sludge	.07	.11	.04		Sediments Sample Collection
			.02	.06	.04	Sample Shipping and Handling	.09	.01			Prepare and Ship Environmental Samples
			.02	.07		Sampling Asbestos	.07	.13	.03		Sample Collection - Solid
			.02	.08	.00	Sampling Radioactive Contaminated Media	.07	.00			INVESTIGATIONS & MONITORING/SAMPLE COLLECTION
			.02	.08	.01	Surface Water	.07	.10			Surface Water Sampling
			.02	.08	.02	Ground Water	.07	.09			Groundwater Sampling/Monitoring
			.02	.08	.03	Liquid Waste	.07	.13	.02		Sample Collection - Liquid
			.02	.08	.04	Surface Soil	.07	.11	.01		Surface Soil Sample Collection
			.02	.08	.05	Sub-Surface Soil	.07	.11	.02		Subsurface Soil Sample Collection
			.02	.08	.06	Sediment/Sludge	.07	.11	.04		Sediments Sample Collection
			.02	.08	.07	Other Contaminated Media	.07	.11	.9x		Other
			.02	.08	.08	Sample Shipping and Handling	.09	.01			Prepare and Ship Environmental Samples
			.02	.09	.00	Laboratory Chemical Analysis	.08	.00			SAMPLE ANALYSIS
			.02	.09	.01	Air/Industrial Hygiene Analysis	.07	.03			Site Contaminant Surveys / Radiation Monitoring
			.02	.09	.01	Air/Industrial Hygiene Analysis	.08	.01			Air / Gas Sample Analysis
			.02	.09	.02	General Water Quality and Wastewater Analysis	.08	.02			Groundwater Sample Analysis
			.02	.09	.02	General Water Quality and Wastewater Analysis	.08	.03			Surface Water Sample Analysis
			.02	.09	.02	General Water Quality and Wastewater Analysis	.08	.06			Liquid Material/Waste Sample Analysis
			.02	.09	.03	Priority Pollutant Analysis (all media)	.08	.00			SAMPLE ANALYSIS
			.02	.09	.04	Biomonitoring and Bioassay Analysis	.08	.09			Bioassay Sample Analysis
			.02	.09	.05	Hazardous Waste (RCRA) Analysis	.08	.00			SAMPLE ANALYSIS
			.02	.09	.06	Miscellaneous Waste Analysis	.08	.00			SAMPLE ANALYSIS
			.02	.09	.07	Soil and Sediment Analysis	.08	.04			Soil / Sediment Sample Analysis
			.02	.10	.00	Radioactive Waste Analysis	.08	.00			SAMPLE ANALYSIS
			.02	.10	.01	Rad Analytical Animal Tissue/Bone	.08	.08	.03		Radiochemistry
			.02	.10	.02	Rad Analytical Air	.08	.01	.03		Radiochemistry
			.02	.10	.03	Rad Analytical Liquid	.08	.02	.03		Radiochemistry
			.02	.10	.03	Rad Analytical Liquid	.08	.03	.03		Radiochemistry
			.02	.10	.03	Rad Analytical Liquid	.08	.06	.03		Radiochemistry
			.02	.10	.04	Rad Analytical Urine/Feces	.08	.08	.03		Radiochemistry
			.02	.10	.05	Rad Analytical Vegetation/Sediment/Soil	.08	.04	.03		Radiochemistry

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.02	.10	.06	Rad Analytical Miscellaneous	.08	.08	.03		Radiochemistry
			.02	.11		Geotechnical Testing	.07	.06			Geophysical / Geotechnical Investigation
			.02	.11		Geotechnical Testing	.08	.04			Soil/Sediment Sample Analysis
			.02	.12		Geotechnical Instrumentation	.07	.06			Geophysical / Geotechnical Investigation
			.02	.13		On-Site Laboratory Facilities	.11	.02			Sheds & Other Supporting Facilities
			.02	.14		Off-Site Laboratory Facilities	.11	.02			Sheds & Other Supporting Facilities
			.03	.00		SITE WORK	.05	.00			SITE WORK
			.03	.01		Demolition	.05	.04			Dismantling and Demolition
			.03	.02		Clearing and Grubbing	.05	.03			Clear & Grub
			.03	.02		Clearing and Grubbing	.05	.52	.02		Site clearing and grubbing
			.03	.03	.01	Rock Excavation	.05	.05	.01		Excavation of soils, rocks, solids and sludges
			.03	.03	.02	Excavation/Fill	.05	.05	.01		Excavation of soils, rocks, solids and sludges
			.03	.03	.03	Backfill	.05	.05	.06		Backfilling
			.03	.03	.04	Borrow	.05	.06			Load and Haul
			.03	.03	.05	Hauling	.05	.07			Borrow Pit/Haul Roads
			.03	.03	.06	Spreading	.05	.05	.07		Spreading
			.03	.03	.07	Grading	.05	.05	.05		Grading
			.03	.03	.08	Compaction	.05	.05	.08		Compaction
			.03	.03	.09	Scarification	.05	.05	.02		Scarification
			.03	.03	.10	Harrowing	.05	.05	.03		Harrowing and furrowing
			.03	.03	.11	Tracking	.05	.05	.04		Tracking
			.03	.03	.12	Contour Furrowing	.05	.05	.03		Harrowing and furrowing
			.03	.03	.13	Stockpiling	.05	.05	.09		Stockpiling
			.03	.03	.14	Topsoil	.05	.02	.09		Topsoil
			.03	.03	.15	Settlement Markers	.05	.05	.10		Settlement markers
			.03	.03	.16	Stripping	.05	.03	.04		Strip Topsoil
			.03	.03		Earthwork	.05	.05			Excavation/Earthwork
			.03	.03		Earthwork	.05	.52	.04		Excavation
			.03	.04		Roads/Parking/Curbs/Walks	.05	.08			Access Roads
			.03	.04		Roads/Parking/Curbs/Walks	.05	.15			Parking Lots
			.03	.04		Roads/Parking/Curbs/Walks	.05	.17			Sidewalks
			.03	.04		Roads/Parking/Curbs/Walks	.05	.52	.06		Permanent Rock and Gravel Roads
			.03	.04		Roads/Parking/Curbs/Walks	.05	.52	.07		Permanent Bituminous Paving
			.03	.04		Roads/Parking/Curbs/Walks	.05	.52	.11		Permanent Road, Walks, and Parking
			.03	.04		Roads/Parking/Curbs/Walks	.05	.52	.13		Bituminous Sidewalks
			.03	.05		Fencing	.05	.14			Fencing
			.03	.06		Electrical Distribution	.05	.31			Overhead Electrical Distribution
			.03	.06		Electrical Distribution	.05	.32			Underground Electrical Distribution
			.03	.06		Electrical Distribution	.05	.66	.03		Power Transmission and Distribution
			.03	.07		Telephone/Communication Distribution	.05	.29			Communications
			.03	.07		Telephone/Communication Distribution	.05	.66	.01		Communication Devices
			.03	.08		Water/Sewer/Gas Distribution	.05	.20			Gas Distribution
			.03	.08		Water/Sewer/Gas Distribution	.05	.26			Water Distribution
			.03	.08		Water/Sewer/Gas Distribution	.05	.28			Storm Sewer
			.03	.09		Steam and Condensate Distribution	.05	.24			Steam and Condensate Distribution
			.03	.10		Fuel Line Distribution	.05	.21			Fuel Line Distribution
			.03	.11		Storm Drainage/Subdrainage	.05	.28			Storm Sewer
			.03	.12		Permanent Cover Structure Over Contaminated Area	.11	.04			Treatment Train Facility (e.g., Rain Covers, Foundation, Utilities)
			.03	.13		Development of Borrow Pit/Haul Roads	.05	.07			Borrow Pit / Haul Roads
			.03	.14		Fuel Storage Tanks (New)	.05	.22			Fuel Storage Tanks

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE				Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th					2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.04	.00		ORDNANCE & EXPLOSIVE - CHEMICAL WARFARE MATERIAL (OE-CWM) REMOVAL AND DESTRUCTION				.14	.00			ORDNANCE & EXPLOSIVES REMOVAL & DESTRUCTION (CWM is X.11 & X.20-X.30)
			.04	.01	.00	Ordnance Removal and Destruction				.14	.00			ORDNANCE & EXPLOSIVES REMOVAL & DESTRUCTION (CWM is X.11 & X.20-X.30)
			.04	.01	.01	Demolition for OE Removal				.14	.01			Demolition for OE Removal
			.04	.01	.02	Brush Clearing with OE				.14	.02			Brush Clearing with OE
			.04	.01	.03	Blast Mats				.14	.03			Blast Mats
			.04	.01	.04	Blast Shields				.14	.04			Blast Shields
			.04	.01	.05	Surface Sweep (Visual)				.14	.05			Surface Sweep (Visual)
			.04	.01	.06	Surface Sweep (Magnetometer)				.14	.06			Surface Sweep (Magnetometer)
			.04	.01	.07	Surface Sweep (Mag & Flag)				.14	.07			Surface Sweep (Mag & Flag)
			.04	.01	.08	Excavate by Hand 0' - 2' Depth				.14	.08			Excavate by Hand 0' - 2' Depth
			.04	.01	.09	Excavate with Heavy Equipment > 2' Depth				.14	.09			Excavate with Heavy Equipment > 2' Depth
			.04	.01	.10	Sifting				.14	.10			Sifting
			.04	.01	.11	Removal of Chemical Warfare Material (CWM)				.14	.11			Removal of Chemical Warfare Material (CWM)
			.04	.01	.12	OE On-Site Destruction				.14	.12			OE On-Site Destruction
			.04	.01	.13	OE Off-Site Destruction Transportation to DOD Facility				.32	.03			OE Off-Site Destruction Transportation to DOD Facility
			.04	.01	.14	Bunkers (Temporary)				.14	.13			Bunkers (Temporary)
			.05	.00		SURFACE WATER COLLECTION AND CONTROL				.17	.00			SURFACE WATER/SEDIMENTS CONTAINMENT, COLLECTION, OR CONTROL
			.05	.01		Berms/Dikes				.17	.02			Berms
			.05	.02		Floodwalls				.17	.03			Floodwalls
			.05	.03		Levees				.17	.04			Levees / Dams / Dikes
			.05	.04		Terraces and Benches				.17	.05			Terraces and Benches
			.05	.05		Channels/Waterways (Soil/Rock)				.17	.06			Channels / Waterways / Ditches
			.05	.06		Chutes or Flumes				.17	.07			Chutes or Flumes
			.05	.07		Sediment Barriers				.17	.08			Sediments Barriers
			.05	.08		Storm Drainage				.17	.09			Storm Drainage
			.05	.09		Lagoons/Basins/Tanks/Dikes/Pump System				.17	.10			Lagoons / Basins / Tanks
			.05	.10		Pumping/Draining/Collection				.17	.11			Pumping / Draining / Collection
			.05	.11		Transport to Treatment Plant				.32	.00			MATERIAL HANDLING/TRANSPORTATION
			.05	.12		Earthwork				.05	.05			Excavation/Earthwork
			.05	.13		Erosion Control				.17	.12			Erosion Control
			.05	.14		Development of Borrow Pit/Haul Roads				.05	.07			Borrow Pit / Haul Roads
			.06	.00		GROUNDWATER COLLECTION AND CONTROL				.18	.00			GROUNDWATER CONTAINMENT, COLLECTION, OR CONTROL
			.06	.01		Extraction and Injection Wells				.18	.01			Extraction Wells
			.06	.01		Extraction and Injection Wells				.18	.02			Injection Wells
			.06	.02		Subsurface Drainage/Collection				.18	.03			Subsurface Drainage / Collection/French Drain
			.06	.03		Slurry Walls				.18	.04			Slurry Walls
			.06	.04		Grout Curtain				.18	.05			Grout Curtain
			.06	.05		Sheet Piling				.18	.06			Sheet Piling
			.06	.06		Lagoons/Basins/Tanks/Dikes/Pump System				.17	.11			Pumping / Draining / Collection
			.06	.06		Lagoons/Basins/Tanks/Dikes/Pump System				.17	.10			Lagoons / Basins / Tanks
			.06	.07		Pumping/Collection				.20	.03			Pumping / Draining / Collection
			.06	.08		Transport to Treatment Plant				.32	.00			MATERIAL HANDLING/TRANSPORTATION
			.06	.09		Development of Borrow Pit/Haul Roads				.05	.07			Borrow Pit / Haul Roads
			.07	.00		AIR POLLUTION/GAS COLLECTION AND CONTROL				.16	.00			AIR POLLUTION/GAS COLLECTION & CONTROL
			.07	.01		Gas/Vapor Collection Trench System				.16	.01			Gas / Vapor Collection Trench System,
			.07	.02		Gas/Vapor Collection Well System				.16	.02			Gas / Vapor Collection Well System
			.07	.03		Gas/Vapor Collection at Lagoon Cover				.16	.03			Gas Collection at Lagoon Cover
			.07	.04		Fugitive Dust/Vapor/Gas Emissions Control				.16	.04			Fugitive Dust / Vapor / Gas Emission Control

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.08	.00		SOLIDS COLLECTION AND CONTAINMENT	.19	.00			SOLIDS/SOILS CONTAINMENT (e.g., CAPPING) COLLECTION, OR CONTROL
			.08	.01		Contaminated Soil Collection	.19	.01			Contaminated Soil Collection
			.08	.02		Waste Containment, Portable (Furnish/Fill)	.19	.02			Waste Containment, Portable (Furnish / Fill)
			.08	.03		Transport to Treatment Plant	.32	.00			MATERIAL HANDLING/TRANSPORTATION
			.08	.04		Radioactive Specific Waste Containment (Furnish/Fill)	.19	.02			Waste Containment, Portable (Furnish / Fill)
			.08	.05		Capping of Contaminated Area/Waste Pile (Soil/Asphalt Cap)	.19	.00			SOLIDS/SOILS CONTAINMENT (e.g., CAPPING) COLLECTION, OR CONTROL
			.08	.06		Nuclear Waste Densification (Dynamic Compaction)	.26	.07			Compaction / Volume Reduction
			.08	.07		Development of Borrow Pit/Haul Roads	.05	.07			Borrow Pit / Haul Roads
			.09	.00		LIQUIDS/SEDIMENTS/SLUDGE COLLECTION AND CONTAINMENT	.17	.00			SURFACE WATER/SEDIMENTS CONTAINMENT, COLLECTION, OR CONTROL
			.09	.00		LIQUIDS/SEDIMENTS/SLUDGE COLLECTION AND CONTAINMENT	.20	.00			LIQUID WASTE/SLUDGE (e.g., UST/AST) CONTAINMENT, COLLECTION, OR CONTROL
			.09	.01		Dredging/Excavating	.17	.01			Dredging / Excavating
			.09	.02		Industrial Vacuuming	.20	.01			Industrial Vacuuming
			.09	.03		Waste Containment, Portable (Furnish/Fill)	.20	.02			Waste Containment - Portable
			.09	.04		Transport to Treatment Plant	.32	.00			MATERIAL HANDLING/TRANSPORTATION
			.09	.05		Radioactive Specific Waste Containment (Furnish/Fill)	.20	.02			Waste Containment - Portable
			.09	.06		Pumping/Draining/Collection	.20	.03			Pumping / Draining / Collection
			.09	.07		Lagoons/Basins/Tanks/Dikes/Pump System	.17	.10			Lagoons / Basins / Tanks
			.09	.07		Lagoons/Basins/Tanks/Dikes/Pump System	.17	.11			Pumping / Draining / Collection
			.09	.08		Development of Borrow Pit/Haul Roads	.05	.07			Borrow Pit / Haul Roads
			.10	.00		DRUMS/TANKS/STRUCTURES/MISCELLANEOUS DEMOLITION AND REMOVAL	.15	.00			DRUMS/TANKS/STRUCTURES/MISC. DEMOLITION & REMOVAL
			.10	.01		Drum Removal	.15	.01			Drum Removal
			.10	.02		Tank Removal	.15	.02			Tank Removal
			.10	.03		Structure Removal	.15	.03			Structure Removal
			.10	.04		Asbestos Abatement	.15	.04			Asbestos Abatement
			.10	.05		Piping and Pipeline Removal	.15	.05			Piping & Pipeline Removal
			.10	.06		Radioactive Specific Waste Containment (Furnish/Fill)	.19	.01			Contaminated Soil Collection
			.10	.07		Miscellaneous Items	.19	.9X			Other
			.10	.08		Contaminated Paint Removal	.25	.08			Laser (Surface Decon)
			.10	.08		Contaminated Paint Removal	.25	.14			Vacuum Blasting
			.11	.00		BIOLOGICAL TREATMENT	.21	.00			IN-SITU BIOLOGICAL TREATMENT
			.11	.00		BIOLOGICAL TREATMENT	.22	.00			EX-SITU BIOLOGICAL TREATMENT
			.11	.01		Activated Sludge (Seq Batch Reactors)	.22	.01			Activated Sludge
			.11	.02		Rotating Biological Contactors	.22	.07			Rotating Biological Contactors
			.11	.03		Land Treatment/Farming (Solid Phase Biodegradation)	.22	.06			Land Farming
			.11	.04		In-Situ Biodegradation/Bioreclamation	.21	.06			Enhanced Bioremediation
			.11	.05		Trickling Filters	.22	.09			Trickling Filter
			.11	.06		Biological Lagoons	.22	.10			Biological Lagoons
			.11	.07		Composting	.22	.12			Composting
			.11	.08		Sludge Stabilization - Aerobic	.22	.01			Activated Sludge
			.11	.09		Sludge Stabilization - Anaerobic	.22	.11			Anaerobic Sludge Digestion
			.11	.10		Genetically Engineered Organisms (White Rot Fungus)	.22	.05			Genetically Engineered Organisms
			.11	.10		Genetically Engineered Organisms (White Rot Fungus)	.22	.13			Fungal Biodegradation (White Rot Fungus)
			.11	.11		Slurry Biodegradation	.22	.08			Slurry Phase Biological Treatment
			.11	.12		Bioventing	.21	.03			Bioventing
			.11	.13		Bioslurping	.25	.21			Bioslurping
			.11	.14		Biopile (Heap Pile Remediation)	.22	.03			Biopile (Bioheap, Biomound)

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.11	.50		Construction of Permanent Plant Facility	.11	.00			TREATMENT PLANT/FACILITY/PROCESS
			.12	.00		CHEMICAL TREATMENT	.23	.00			IN-SITU CHEMICAL TREATMENT
			.12	.00		CHEMICAL TREATMENT	.24	.00			EX-SITU CHEMICAL TREATMENT
			.12	.01		Oxidation/Reduction	.23	.04			Oxidation / Reduction
			.12	.01		Oxidation/Reduction	.24	.08			Chemical Oxidation / Reduction
			.12	.02		Solvent Extraction	.24	.11			Solvent Extraction
			.12	.03		Chlorination	.24	.04			Chlorination
			.12	.04		Ozonation	.24	.10			Ozonation
			.12	.05		Ion Exchange	.24	.07			Ion Exchange
			.12	.06		Neutralization	.23	.03			Neutralization
			.12	.06		Neutralization	.24	.12			Neutralization
			.12	.07		Chemical Hydrolysis	.24	.03			Chemical Hydrolysis
			.12	.08		Ultraviolet Photolysis	.24	.13			Ultraviolet Photolysis
			.12	.09		Dehalogenation (Catalytic Dechlorination)	.24	.05			Dehalogenation
			.12	.10		Alkali Metal Dechlorination	.24	.01			Glycolate/Alkali Metal / Polyethylene Glycol
			.12	.11		Alkali Metal/Polyethylene Glycol (A/PEG)	.24	.01			Glycolate/Alkali Metal / Polyethylene Glycol
			.12	.12		Base-Catalyzed Decomposition Process	.24	.02			Base-Catalyzed Decomposition Process
			.12	.13		Electrolysis	.26	.15			Electrolysis
			.12	.14		Vapor Recovery/Reuse (Internal Combustion Engine)	.34	.09			Internal Combustion Engine
			.12	.50		Construction of Permanent Plant Facility	.11	.00			TREATMENT PLANT/FACILITY/PROCESS
			.13	.00		PHYSICAL TREATMENT	.25	.00			IN-SITU PHYSICAL TREATMENT
			.13	.00		PHYSICAL TREATMENT	.26	.00			EX-SITU PHYSICAL TREATMENT
			.13	.01		Filtration/Ultrafiltration	.26	.20			Media Filtration
			.13	.01		Filtration/Ultrafiltration	.26	.44			Ultrafiltration/Microfiltration
			.13	.02		Sedimentation	.26	.31			Sedimentation
			.13	.03		Straining	.26	.33			Sieving (Size Separation, Screening, Physical Separation)
			.13	.04		Coagulation/Flocculation/Precipitation	.24	.15			Coagulation / Flocculation / Precipitation
			.13	.05		Equalization	.26	.16			Equalization
			.13	.06		Evaporation	.26	.17			Evaporation
			.13	.07		Air Stripping	.26	.04			Air Stripping
			.13	.08		Steam Stripping	.28	.11			Steam Stripping / Flushing / Reforming
			.13	.09		Soil Washing (Surfactant/Solvent)	.26	.35			Soil Washing (Surfactant / Solvent)
			.13	.10		Soil Flushing (Surfactant/Solvent)	.23	.05			Soil Flushing (Surfactant/Solvent)
			.13	.11		Solids Dewatering	.25	.12			Solids Dewatering / Drying
			.13	.12		Oil/Water Separation	.26	.30			Oil / Water Separation
			.13	.13		Dissolved Air Floatation	.26	.10			Dissolved Air Floatation
			.13	.14		Heavy Media Separation	.26	.24			Heavy Media Separation
			.13	.15		Distillation	.26	.11			Distillation
			.13	.16		Chelation	.26	.05			Chelation
			.13	.17		Solvent Extraction	.24	.11			Solvent Extraction
			.13	.18		Supercritical Extraction	.26	.38			Supercritical Extraction
			.13	.19		Carbon Adsorption - Gases	.34	.10			Granular Activated Carbon Absorption-Gases/Vapor
			.13	.20		Carbon Adsorption - Liquids	.26	.23			Granular Activated Carbon Absorption-Liquids
			.13	.21		Membrane Separation - Reverse Osmosis	.26	.29			Reverse Osmosis
			.13	.22		Membrane Separation - Electrodialysis	.26	.28			Membrane Separation-Electrodialysis
			.13	.23		Soil Vapor Extraction	.26	.18			Soil Vapor Extraction
			.13	.24		Shredding	.26	.32			Shredding
			.13	.25		Aeration	.26	.01			Aeration
			.13	.26		Advanced Electrical Reactor	.26	.02			Advanced Electrical Reactor
			.13	.27		Low Level Waste (LLW) Compaction	.26	.07			Compaction / Volume Reduction
			.13	.28		Agglomeration	.26	.03			Agglomeration

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE				Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th					2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.13	.29		In-Situ Steam Extraction				.27	.04			Steam/Hot Water Injection Vacuum Extraction
			.13	.30		Filter Presses				.26	.19			Filter Presses
			.13	.31		Lignin Adsorption/Sorptive Clays				.26	.26			Lignin Adsorption / Sorptive Clays
			.13	.32		Air Sparging				.25	.02			Air Sparging
			.13	.50		Construction of Permanent Plant Facility				.11	.00			TREATMENT PLANT/FACILITY/PROCESS
			.14	.00		THERMAL TREATMENT				.27	.00			IN-SITU THERMAL TREATMENT
			.14	.00		THERMAL TREATMENT				.28	.00			EX-SITU THERMAL TREATMENT
			.14	.01		Incineration				.28	.02			Incineration
			.14	.02		Low Temperature Thermal Desorption				.28	.03			Low Temperature Thermal Desorption
			.14	.03		Supercritical Water Oxidation				.28	.12			Supercritical Water Oxidation
			.14	.04		Molten Salt Destruction				.28	.04			Molten Salt Oxidation
			.14	.05		Radio Frequency Heating				.27	.08			Radiofrequency/Electromagnetic Heating
			.14	.06		Solar Detoxification				.28	.10			Solar Detoxification / Evaporation
			.14	.07		High Temperature Thermal Desorption				.27	.05			High Temperature Thermal Desorption
			.14	.07		High Temperature Thermal Desorption				.28	.01			High Temperature Thermal Desorption (Ex-Situ)
			.14	.50		Construction of Permanent Plant Facility				.11	.00			TREATMENT PLANT/FACILITY/PROCESS
			.15	.00		STABILIZATION/FIXATION/ENCAPSULATION				.29	.00			IN-SITU STABILIZATION/FIXATION/ENCAPSULATION
			.15	.00		STABILIZATION/FIXATION/ENCAPSULATION				.30	.00			EX SITU STABILIZATION/FIXATION/ENCAPSULATION
			.15	.01		Molten Glass				.30	.07			Vitrification/Molten Glass
			.15	.02		In-Situ Vitrification				.29	.04			In-Situ Vitrification
			.15	.03		In-Situ Pozzolan Process (Lime/Portland Cement)				.29	.03			Pozzolan Process
			.15	.04		Pozzolan Process (Lime/Portland Cement)				.30	.04			Pozzolan Process (Lime/Portland Cement)
			.15	.05		Asphalt-Based Encapsulation				.30	.01			Asphalt-Based Encapsulation
			.15	.06		Radioactive Waste Solidification (Grouting/Other)				.29	.02			Grout Injection
			.15	.07		Sludge Stabilization (Aggregate/Rock/Slag)				.30	.06			Sludge Stabilization (Aggregate / Rock / Slag)
			.15	.50		Construction of Permanent Plant				.11	.00			TREATMENT PLANT/FACILITY/PROCESS
			.16	.00		RESERVED FOR FUTURE USE								
			.17	.00		DECONTAMINATION AND DECOMMISSIONING (D&D)				.31	.00			FACILITY DECOMMISSIONING, & DISMANTLEMENT
			.17	.01	.00	Pre-Decommissioning Operations				.03	.00			PREPARATION OF PLANS
			.17	.01	.00	Pre-Decommissioning Operations				.04	.00			STUDIES/DESIGN & DOCUMENTATION
			.17	.01	.01	Preparation of Decommissioning Plan				.03	.15			Decommissioning Plan
			.17	.01	.02	Licensing				.02	.03	.05		Regulatory Permitting (e.g., RCRA Part B Permit)
			.17	.01	.03	Radioactivity Surveys				.07	.03			Site Contaminant Surveys / Radiation Monitoring
			.17	.02	.00	Facility Shutdown Activities				.31	.01			Nuclear Facility Shutdown and Inspection
			.17	.02	.01	Plant Shutdown and Inspection				.31	.01	.01		Plant shutdown and inspection
			.17	.02	.02	Defueling and Transfer of Fuel to Temporary Spent Fuel Storage				.31	.02	.01		Defueling and Transfer of Fuel
			.17	.02	.03	Drainage and Drying or Blowdown of all Systems not in Operation				.31	.02	.02		Draining and Drying or Blowdown of All Systems Not in Operation
			.17	.02	.05	Disposal of System Fluids (water, oils,...)				.13	.18			Disposal Fees and Taxes
			.17	.02	.06	Disposal of Special System Fluids (D20, sodium,...)				.13	.18			Disposal Fees and Taxes
			.17	.02	.07	Decontamination of Systems for Dose Reduction				.31	.08	.01		Decontamination of systems for dose reduction/reduction of controlled area
			.17	.02	.08	Disposal of Wastes from Decontamination				.13	.18			Disposal Fees and Taxes
			.17	.02	.09	Disposal of Combustible Material				.13	.18			Disposal Fees and Taxes
			.17	.02	.10	Disposal of Spent Resins				.13	.18			Disposal Fees and Taxes
			.17	.02	.11	Disposal of Other Wastes from Reactor Operations				.13	.18			Disposal Fees and Taxes
			.17	.02	.12	Isolation of Power Equipment				.31	.01	.06		Isolation of power equipment
			.17	.02	.13	Decon of Areas and Equip in all Bldgs to Reduce Controlled Area				.31	.08			Preparation and Decontamination for Area and Equipment
			.17	.02	.14	Mothballing				.31	.16	.02		Mothballing
			.17	.02	.15	Entombment				.31	.16	.03		Entombment
			.17	.03	.00	Procurement of Equipment and Material				.10	.04			Design/Procure New/Tools and Equipment

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.17	.03	.01	Site Dismantling Equipment	.10	.04	.08		Design and Procure New Equipment for Dismantling Other Components and Structures
			.17	.03	.02	Radiation Protection and Health Physics Equipment	.02	.06			Procurement and Warehousing of Equipment and Material
			.17	.03	.03	Security and Maintenance Equipment for Long-Term Storage	.02	.06			Procurement and Warehousing of Equipment and Material
			.17	.04	.00	Dismantling Activities	.31	.09			Dismantling and Removal of Contaminated Equipment /Material
			.17	.04	.01	Decon of Areas and Equip in all Bldgs to Facilitate Dismantling	.31	.08			Preparation and Decontamination for Area and Equipment
			.17	.04	.02	Drainage of Spent Fuel Pool and Decontamination of Linings	.31	.13	.02		Removal of Pool Linings
			.17	.04	.03	Zoning for Long-Term Storage	.31	.03	.02		Zoning for Long-Term Storage
			.17	.04	.04	Radioactive Inventory Categorization	.31	.07			Radiological Inventory Categorization for D&D
			.17	.04	.05	Dismantling and Transfer of Contamination Equip and Mat to Contain Store	.31	.09			Dismantling and Removal of Contaminated Equipment /Material
			.17	.04	.06	Isolation and Sealing of Containment Structure	.31	.05	.08		Isolation of Containment Structure
			.17	.04	.07	Layout of Dormancy Period Control Area	.31	.03	.01		Layout of Dormancy Period Control Area
			.17	.04	.08	Removal of Fuel Handling Equipment	.31	.06			Removal of Fuel Handling Equipment
			.17	.04	.09	Design and Procurement of Special Tools for Dismantling	.10	.04	.01		Design & procure new equipment for dismantling the reactor vessel & internals
			.17	.04	.10	Dismantling Operations on Reactor Vessels and Internals	.31	.10			Dismantling Operations on Reactor Vessel & Internals
			.17	.04	.11	Removal of Primary and Auxiliary Systems	.31	.11			Removal of Primary and Auxiliary Systems
			.17	.04	.12	Removal of Biological Shield	.31	.12			Dismantling and Removal of Biological and Thermal Shield
			.17	.04	.13	Removal of Other Mat and Equip from Containment Structure	.31	.15			Removal of Other Material and Equipment from Containment Structure
			.17	.04	.14	Removal and Disposal of Asbestos	.15	.04			Asbestos Abatement
			.17	.04	.15	Removal of Pool Linings	.31	.13	.02		Removal of pool linings
			.17	.04	.16	Removal of Contamination from Areas and Structures in all Bldgs	.31	.17	.01		Removal of Activated Material and Equipment Exceeding Release Levels
			.17	.04	.17	Radioactive Waste Characterization	.07	.14			Contaminated Building/Structures/Equipment Samples
			.17	.04	.18	Radioactive Waste Characterization for Recycling	.07	.14			Contaminated Building/Structures/Equipment Samples
			.17	.04	.19	Radioactive Waste Characterization for Final Disposal	.07	.14			Contaminated Building/Structures/Equipment Samples
			.17	.04	.20	Personnel Training	.01	.02	.01		Training/Certification
			.17	.05	.00	Research & Development (R&D)	.10	.00			TREATABILITY/RESEARCH & DEVELOPMENT
			.17	.05	.01	Literature Review	.10	.01			Literature Search
			.17	.05	.02	Data Collection	.10	.02			Data Collection
			.17	.05	.03	Considerations on Actual and Future Dismantling	.03	.15			Decommissioning Plan
			.17	.05	.04	Decontamination Strategies/Techniques	.03	.15			Decommissioning Plan
			.17	.05	.05	Status Review	.02	.01	.01	.10	Prepare Reports / Participate in Reviews
			.17	.05	.06	Development of New Dismantling Equipment	.10	.04			Design/Procure New Tools and Equipment
			.17	.05	.07	Development or Use of New Decontamination Techniques	.10	.04			Design/Procure New Tools and Equipment
			.17	.05	.08	Dev of Adapted Measurement Devices and Calc Techniques	.10	.04			Design/Procure New Tools and Equipment
			.17	.05	.09	Development of Adapted Waste Treatment and Disposal Tech	.10	.04	.06		Design and Procure New Equipment for Complex Waste Treatment
			.17	.05	.10	Research and Development on Remotely Operated Systems	.10	.04	.04		Design and procure new equipment for remote disassembly/segmentation for complex subcomponents
			.17	.05	.11	Simulation of Complicated Work on Model	.10	.10			Simulation / Modeling
			.17	.05	.12	Robotics and Manipulators (R&D)	.10	.04	.02		Design and procure new equipment for remote handling device or articulated manipulators
			.17	.06	.00	Spent Fuel Handling	.31	.02	.01		Defueling and Transfer of Fuel
			.17	.06	.01	Transfer of Fuel from Temp Storage to Intermediate Storage	.32	.00			MATERIAL HANDLING/TRANSPORTATION
			.17	.06	.02	Intermediate Fuel Storage	.12	.05	.04		Intermediate Fuel Storage
			.17	.06	.03	Dismantling/Disposal of Temporary Fuel Storage Facility	.31	.18			Dismantling of Temporary Fuel Storage Facility
			.17	.06	.04	Transfer Fuel from Intermediate Storage to Reprocessing	.32	.00			MATERIAL HANDLING/TRANSPORTATION
			.17	.06	.05	Reprocessing Costs	.31	.20			Reprocessing Costs
			.17	.06	.06	Transfer and Disposal of Wastes from Reprocessing	.32	.00			MATERIAL HANDLING/TRANSPORTATION
			.17	.06	.07	Transfer and Conditioning of Spent Fuel	.32	.01	.03		Waste Conditioning
			.17	.06	.08	Transfer and Disposal of Spent Fuel	.32	.00			MATERIAL HANDLING/TRANSPORTATION

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.17	.07	.00	Hot Cell Cleanup	.31	.08			Decontamination of Area and Equipment
			.17	.07	.00	Hot Cell Cleanup	.31	.14			Dismantling of In-Cell Equipment
			.17	.07	.01	Radioactivity Survey	.07	.03			Site Contaminant Surveys / Radiation Monitoring
			.17	.07	.02	Decon of Areas and Equip in Cell to Facilitate Dismantling	.31	.08	.14		Decontamination of areas and equipment in hot cells
			.17	.07	.03	Decon of Areas and Equip in Cell to Reduce Contamination Levels	.31	.08	.01		Decontamination of Systems for Dose Reduction of Controlled Area
			.17	.07	.04	Decontamination of Equipment for Transfer or Disposal	.31	.08	.14		Decontamination of areas and equipment in hot cells
			.17	.07	.05	Cell Equipment Modification	.31	.04			Hot Cell Equipment Modification
			.17	.07	.06	Dismantling of Primary and Auxiliary Services to Cell	.31	.14			Dismantling of In-Cell Equipment
			.17	.07	.07	Dismantling of In-Cell Equipment	.31	.14			Dismantling of In-Cell Equipment
			.17	.07	.08	Transfer of Material and Equipment to Airlock Services	.32	.01	.02		Stage & Store
			.17	.07	.09	Packaging and Preparation of Cell Waste in Airlock	.32	.01			Waste Stream Handling/Packaging
			.17	.07	.10	Transfer of Material from Airlock to Shipping Dock	.32	.02	.01		Transportation Device/Equipment for On-Site Transfers
			.17	.07	.11	Cell Window Maintenance and Cleaning	.31	.08	.14		Decontamination of areas and equipment in hot cells
			.17	.07	.12	Cell Window Replacement/Refurbishment	.31	.05	.04		Sealing/Securing of Potential Pathways to the Environment
			.18	.00		DISPOSAL (OTHER THAN COMMERCIAL)	.13	.00			DISPOSAL FACILITY/PROCESS
			.18	.01		Landfill/Burial Ground/Trench/Pits	.13	.04			Landfill
			.18	.01		Landfill/Burial Ground/Trench/Pits	.13	.12			Intermediate Depth Disposal (Burial Ground/Trenches/Pits)
			.18	.02		Above-Ground Vault	.13	.05			Above Ground Vault
			.18	.03		Underground Vault	.13	.06			Underground Vault
			.18	.04		Underground Mine/Shaft	.13	.07			Underground Mine / Shaft
			.18	.05		Tanks	.13	.08			Tanks
			.18	.06		Pads (Tumulus/Retrievable Storage/Other)	.13	.09			Pads (Tumulus / Retrievable Storage / Other)
			.18	.07		Storage Bldgs/Protect Cover Struct/Other Bldgs and Struct	.12	.02	.02		Waste Storage Structure/Building
			.18	.08		Cribs	.12	.02	.01		Waste Storage Area (Pads & Cribs)
			.18	.09		Deep Well Injection	.13	.15			Deep Well Injection
			.18	.10		Incinerator	.28	.02			Incineration
			.18	.11		Construction of Permanent Disposal Facility	.13	.11			Engineered Disposal
			.18	.20		Container Handling	.13	.02	.03		Container Handling
			.18	.21		Transportation to Storage/Disposal Facility	.11	.04			Treatment Train Facility (e.g., Rain Covers, Foundation, Utilities)
			.18	.22		Disposal Fees and Taxes	.13	.18			Disposal Fees and Taxes
			.18	.23		Mixed Waste Storage Fees and Taxes	.12	.09			Waste Storage Fees and Taxes
			.19	.00		DISPOSAL (COMMERCIAL)	.33	.00			DISPOSAL
			.19	.20		Container Handling	.32	.15			Container Handling
			.19	.21		Transportation to Storage/Disposal Facility	.32	.11			Transportation by Truck
			.19	.21		Transportation to Storage/Disposal Facility	.32	.12			Transportation by Rail
			.19	.21		Transportation to Storage/Disposal Facility	.32	.13			Transportation by Barge
			.19	.21		Transportation to Storage/Disposal Facility	.32	.14			Transportation by Air
			.19	.22		Disposal Fees and Taxes	.13	.18			Disposal Fees and Taxes
			.19	.22		Disposal Fees and Taxes	.33	.04			On-site DOE Disposal Costs, Fees, and Taxes
			.19	.22		Disposal Fees and Taxes	.33	.05			On-site Commercial Disposal Costs, Fees, and Taxes
			.19	.22		Disposal Fees and Taxes	.33	.06			Off-site DOE Disposal Costs, Fees, and Taxes
			.19	.22		Disposal Fees and Taxes	.33	.07			Off-Site Other Government Disposal Costs, Fees, and Taxes
			.19	.22		Disposal Fees and Taxes	.33	.08			Off-Site Commercial Disposal Costs, Fees, and Taxes
			.19	.23		Mixed Waste Storage Fees and Taxes	.12	.07			Mixed Waste Storage
			.20	.00		SITE RESTORATION	.05	.00			SITE WORK
			.20	.01		Earthwork	.05	.05			Excavation/Earthwork
			.20	.01		Earthwork	.05	.52	.04		Excavation
			.20	.02		Permanent Markers	.02	.04	.01		Signs and Markers
			.20	.03		Permanent Features	.02	.04	.01		Signs and Markers
			.20	.04		Revegetation and Planting	.05	.02			Cleanup / Landscaping / Revegetation
			.20	.04		Revegetation and Planting	.05	.52	.01		Landscaping

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.20	.05		Removal of Barriers	.05	.36	.01		Removal of Temporary Facilities
			.21	.00		DEMOBILIZATION	.05	.36			Demobilization
			.21	.01	.01	Office Trailers	.05	.01	.03	.01	Office trailers
			.21	.01	.02	Storage Facility	.05	.01	.03	.04	Storage facilities and warehouses
			.21	.01	.03	Observation Tower	.05	.01	.03	.10	Observation towers
			.21	.01	.04	Decontamination Facility for Personnel	.05	.01	.03	.11	Decontamination facilities for personnel
			.21	.01	.05	Decontamination Facility for Equipment and Vehicles	.05	.01	.03	.12	Decontamination facilities for construction equipment and vehicles
			.21	.01	.06	Temporary Cover Structure Over Contaminated Area	.05	.01	.03	.13	Temporary cover structure over contaminated area
			.21	.01	.07	Lunch/Break Trailer	.05	.01	.03	.02	Lunch/break trailer
			.21	.01	.08	Emergency Medical Trailer/Facilities	.05	.01	.03	.03	Emergency medical facilities trailers
			.21	.01	.09	Laundry Facilities	.05	.01	.03	.05	Laundry facilities
			.21	.01	.10	Toilet	.05	.01	.03	.06	Toilets
			.21	.01	.11	Barricades	.05	.01	.03	.14	Barricades
			.21	.01	.12	Equipment Maintenance Shop	.05	.01	.03	.08	Maintenance shop
			.21	.01	.13	Warehouse	.05	.01	.03	.04	Storage facilities and warehouses
			.21	.01	.14	Government Trailers	.01	.06			Government - Program Infrastructure
			.21	.01	.15	Guard Houses	.05	.01	.03	.17	Guard houses
			.21	.01	.16	Truck Scales	.05	.01	.03	.09	Truck scales
			.21	.01	.17	Wastewater Holding Tanks	.05	.01	.03	.18	Wastewater holding tanks
			.21	.01	.18	Fire Suppression Systems	.05	.01	.03	.15	Fire suppression systems
			.21	.01	.19	POL Dispensing Station	.05	.01	.03	.16	POL dispensing station
			.21	.01	.20	Photographic Laboratory	.05	.01	.03	.07	Temporary laboratory
			.21	.01	.21	Housing	.05	.01	.03	.19	Housing
			.21	.01	.22	Shop Facility	.05	.01	.03	.08	Maintenance shop
			.21	.01	.23	Aggregate Surfacing	.05	.01	.03	.20	Aggregate surfacing
			.21	.01	.24	Security Fencing	.05	.01	.03	.21	Security fencing
			.21	.01	.25	Roads and Parking	.05	.01	.03	.22	Roads and parking
			.21	.01	.26	Culverts	.05	.01	.03	.23	Culverts
			.21	.01	.27	Walks	.05	.01	.03	.24	Walks
			.21	.01	.28	Signs	.05	.01	.03	.25	Signs
			.21	.01	.29	Grading	.05	.01	.03	.26	Grading
			.21	.01	.30	Erosion Control	.05	.01	.03	.27	Erosion control
			.21	.01		Removal of Temporary Facilities	.05	.36	.01		Removal of Temporary Facilities
			.21	.02	.01	Site Lighting	.05	.01	.04	.01	Site lighting
			.21	.02	.02	Power Connection/Distribution	.05	.01	.04	.02	Power connection/distribution
			.21	.02	.03	Telephone/Communication Distribution	.05	.01	.04	.03	Telephone/communications hook-up
			.21	.02	.04	Water Connection/Distribution	.05	.01	.04	.04	Water connection/distribution
			.21	.02	.05	Sewer Connection/Distribution	.05	.01	.04	.05	Sewer connection/distribution
			.21	.02	.06	Gas Connection/Distribution	.05	.01	.04	.06	Gas connection/distribution
			.21	.02		Removal of Temporary Utilities	.05	.36	.02		Removal of Temporary Utilities
			.21	.03		Final Decontamination	.05	.36	.03		Final Decontamination
			.21	.04	.01	Transport Vehicles Ownership/Operation	.05	.01	.01	.01	Transport vehicles, equipment, drivers and operators
			.21	.04	.02	Driver	.05	.01	.01	.01	Transport vehicles, equipment, drivers and operators
			.21	.04	.03	Manifest	.05	.01	.01	.02	Manifests, tolls, permits for mobilization
			.21	.04	.04	Tolls	.05	.01	.01	.02	Manifests, tolls, permits for mobilization
			.21	.04	.05	Permits	.05	.01	.01	.02	Manifests, tolls, permits for mobilization
			.21	.04	.06	Escort Vehicles Ownership and Operation	.05	.01	.01	.03	Escort vehicles ownership and operation
			.21	.04	.07	Construction Equipment Ownership/Operation	.05	.01	.01	.04	Construction equipment operators
			.21	.04	.08	Equipment Operators	.05	.01	.01	.01	Transport vehicles, equipment, drivers and operators
			.21	.04	.09	Initial Assembly and Setup	.05	.01	.01	.05	Setup and assembly of equipment for operations
			.21	.04		Demobilization of Construction Equipment and Facilities	.05	.36	.04		Demobilization Construction Equipment and Facilities

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE				Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th	HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE				2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
			.21	.05		Demobilization of Personnel				.05	.36	.05		Demobilization of Personnel
			.21	.06	.01	Punch List				.04	.21	.01		Punch List
			.21	.06	.02	Project Acceptance				.04	.21	.02		Project Acceptance
			.21	.06	.03	Survey Information				.04	.21	.03		Survey Information
			.21	.06	.04	Final QA/QC Report				.04	.21	.04		Final QA/QC Report
			.21	.06	.05	Construction Documentation Report				.02	.03	.04	.01	Post construction/removal report
			.21	.06	.06	As-Built Drawings				.04	.21	.05		As-Built Drawings
			.21	.06	.07	Removal Reports				.02	.03	.04	.01	Post construction/removal report
			.21	.06	.08	Regulatory Approvals				.02	.03	.05		Regulatory Permitting (e.g., RCRA Part B Permit)
			.21	.06	.09	O&M Manuals				.04	.21	.9x		Others
			.21	.06		Submittals				.04	.21			Submittals
			.21	.07	.01	Concrete batch				.05	.01	.05	.01	Concrete batch
			.21	.07	.02	Block				.05	.01	.05	.02	Block
			.21	.07	.03	Precast				.05	.01	.05	.03	Precast
			.21	.07	.04	Asphalt				.05	.01	.05	.04	Asphalt
			.21	.07	.05	Quarry crusher/screens				.05	.01	.05	.05	Quarry crusher/screens
			.21	.07		Construction Plant Takedown				.05	.36	.06		Construction Plant Takedown
			.22	.00		GENERAL REQUIREMENTS (Optional Breakout)				.01	.00			PROGRAM MANAGEMENT, SUPPORT & INFRASTRUCTURE
			.22	.01		Supervision and Management				.01	.02	.05		Engineering & Supervision
			.22	.02		Administration Job Office				.01	.02	.03		Administrative Support
			.22	.03		Warehouse, Materials Handling, and Purchasing				.01	.02	.04		Procurement - Equipment & Material
			.22	.03		Warehouse, Materials Handling, and Purchasing				.12	.02			Conventional Storage/Warehouses
			.22	.04		Engineering, Surveying, and Quality Control				.01	.02	.06		Surveying and Quality Control
			.22	.05		Equipment Maintenance and Motor Pool				.01	.03	.10		Equipment Maintenance and Motor Pool
			.22	.06		First Aid, Fire Protection, Traffic Control, and Security				.01	.03	.11		Traffic Control and Security
			.22	.07		Health & Safety				.01	.02	.08		Medical / Health & Safety
			.22	.08		Temporary Construction Facilities-Ownership				.01	.03	.01		Cost of Ownership
			.22	.10	.01	Telephone usage				.01	.03	.08	.01	Telephone usage
			.22	.10	.02	Electrical usage				.01	.03	.08	.02	Electrical usage
			.22	.10	.03	Sewer usage				.01	.03	.08	.03	Sewer usage
			.22	.10	.04	Water usage				.01	.03	.08	.04	Water usage
			.22	.10	.05	Gas usage				.01	.03	.08	.05	Gas usage
			.22	.10		Project Utilities				.01	.03	.08		Project Utilities
			.22	.11		Miscellaneous Project Expenses				.01	.03	.09		Miscellaneous Project Expenses
			.22	.12		Insurance, Interest, and Fees				.01	.03	.02		Interest and Fees and Cost of Money
			.22	.12		Insurance, Interest, and Fees				.01	.03	.15		Insurance
			.33	.00		ENGINEERING DURING CONSTRUCTION (EDC)				.02	.07			A/E Support
			.33	.00		SUPERVISION & ADMINISTRATION (S&A) CONSTRUCTION MANAGEMENT				.02	.08			Contractor Construction Management
			.33	.00		SUPERVISION & ADMINISTRATION (S&A) CONSTRUCTION MANAGEMENT				.02	.09			Government Construction Management
				.04	.02	Drainage of Spent Fuel Pool and Decontamination of Linings				.31	.13	.01		Drainage of spent fuel pool
										.01	.01	.01		Program Planning
										.01	.01	.02		Compliance Management
										.01	.01	.03		Pollution Prevention Management
										.01	.01	.04		Conservation/Environmental Restoration Management
										.01	.01	.05		Meetings and Interfaces
										.01	.01	.06		Budgeting and Financial Control/Tracking/Reporting
										.01	.01			Personnel Resources
										.01	.02	.01	.01	HAZWOPER training
										.01	.02	.01	.02	Site orientation/emergency training

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.01	.02	.01	.03	Security training
							.01	.02	.01	.04	Ethics training
							.01	.02	.01	.05	Waste containment, handling, labeling, packaging, transportation and disposal
							.01	.02	.01	.9x	Other training and certification
							.01	.02	.02		Public Affairs/Community Relations
							.01	.02	.07		Legal Support/Regulatory Interaction
							.01	.02	.08	.01	Personnel dosimetry
							.01	.02	.08	.01	Rent for office space and housing
							.01	.02	.08	.02	Personnel radiation counting
							.01	.02	.08	.02	Fixed costs related to environmental work
							.01	.02	.08	.03	Personal protective equipment/respirators/ventilators
							.01	.02	.08	.03	Ownership of temporary construction facilities
							.01	.02	.08	.04	Industrial safety (heat, cold, stress, noise, odor monitoring; industrial hygiene, confined space, etc)
							.01	.02	.08	.05	First aid/emergency response
							.01	.02	.08	.06	General safety monitor
							.01	.02	.08	.07	Safety evaluation and investigations
							.01	.02	.08	.08	Dosimetry system (electronic and thermoluminescence dosimeter reader)
							.01	.02	.08	.12	Criticality Safety Program
							.01	.02	.10		Human Resources
							.01	.02			Program Support
							.01	.03	.01	.09	Instrument calibration, health and safety QA/QC
							.01	.03	.01	.10	Medical examination
							.01	.03	.01	.11	Portal or access monitoring
							.01	.03	.01	.9x	Other
							.01	.03	.03		Cost of Money
							.01	.03	.04		General and Administrative
							.01	.03	.05		Award Fee
							.01	.03	.06		Fixed Fee
							.01	.03	.07	.01	Computer support/hotline
							.01	.03	.07	.01	Guard houses
							.01	.03	.07	.02	Cafeteria/food services
							.01	.03	.07	.02	Access monitoring, protection, and control
							.01	.03	.07	.03	Cleaning/janitorial
							.01	.03	.07	.06	Mail Services
							.01	.03	.07	.07	Library Services
							.01	.03	.07	.08	Video and photography
							.01	.03	.07		Support Services
							.01	.03	.11	.03	Barricades and barriers
							.01	.03	.11	.04	Laundry
							.01	.03	.11	.04	Administrative controls
							.01	.03	.11	.05	Deployment of guards and security forces
							.01	.03	.11	.06	Traffic control, signs and markers, barricades, road markings, etc.
							.01	.03	.11	.9x	Other
							.01	.03	.11	.9x	Other
							.01	.03	.12		General Site Maintenance (road clearing, snow removal, site cleanup, etc)
							.01	.03	.13		Contingency
							.01	.03	.14	.01	Federal tax
							.01	.03	.14	.02	State tax

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.01	.03	.14	.03	Local or county taxes
							.01	.03	.14	.04	Sale taxes
							.01	.03	.14	.9x	Other
							.01	.03	.14		Taxes
							.01	.03	.15		Insurance
							.01	.03	.16	.01	Orderly progression from operations to shutdown
							.01	.03	.16	.02	Staff reduction
							.01	.03	.16	.03	Re-assignment/training
							.01	.03	.16	.04	Key employee retention/incentive programs
							.01	.03	.16	.9x	Other
							.01	.03	.16		Work Force Transition
							.01	.03	.17		Fire Protection
							.01	.03	.18		Refueling Station/Maintenance Shop
							.01	.03	.19		Asset Recovery
							.01	.03	.20		Contractor Transition Cost
							.01	.04			Government Personnel Resources
							.01	.05			Government Program Support
							.01	.06			Government Program Infrastructure
							.01	.01	.01		Program Planning
							.01	.01	.02		Compliance Management
							.01	.01	.03		Pollution Prevention Management
							.01	.01	.04		Conservation/Environmental Restoration Management
							.01	.02	.02		Public Affairs/Community Relations
							.01	.02	.07		Legal Support/Regulatory Interaction
							.01	.02	.09		Consulting Costs
							.01	.03	.07	.05	Transportation Services
							.02	.00			PROJECT MANAGEMENT & SUPPORT (Operable Unit / Solid Waste Management Unit)
							.02	.01	.01	.11	Proposed plan support
							.02	.01	.01	.12	Responsiveness summary report
							.02	.01	.01	.13	Work assignment closeout
							.02	.01	.01	.15	Field supervision
							.02	.01	.01	.16	QA/QC and site inspection
							.02	.01	.01	.17	Develop schedules and schedule estimates
							.02	.01	.01	.18	Product review, inspection, testing, and acceptance
							.02	.01	.01	.9x	Other
							.02	.01	.02	.02	Perform subcontract management
							.02	.01	.02	.04	Coordinate with analytical laboratory
							.02	.01	.03	.01	Meeting participation/routine communications
							.02	.01	.03	.02	Prepare presentation materials
							.02	.01	.03	.03	Assist in preparation of documents
							.02	.01	.04	.03	Prepare feasibility addendum
							.02	.01	.05	.00	Negotiation Support
							.02	.01	.05	.01	Attend negotiation sessions and meetings
							.02	.01	.05	.02	Review of PRP documents
							.02	.01	.05	.03	Provide technical memorandum
							.02	.01	.06	.01	Coordinate with administrative record coordinator
							.02	.01	.06	.02	Provide assistance in document compilation
							.02	.01	.06	.03	Prepare draft administrative record index
							.02	.01	.06	.04	Prepare administrative record index
							.02	.01	.06	.05	Coordinate duplication of administrative index

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.02	.01	.06	.06	<i>Assemble administrative record and index</i>
							.02	.01			Project Management /Support/Administration
							.02	.02	.02	.04	<i>Facility tours</i>
							.02	.03	.04	.02	<i>Preliminary close-out report</i>
							.02	.03	.04	.03	<i>Final close-out report</i>
							.02	.03	.04	.04	<i>Five-year reviews</i>
							.02	.03	.04	.05	<i>Notice of site deletion</i>
							.02	.03	.04	.9x	<i>Others</i>
							.02	.03	.05	.01	<i>RCRA permitting</i>
							.02	.03	.05	.02	<i>CERCLA permitting</i>
							.02	.03	.05	.03	<i>NRC permitting</i>
							.02	.03	.05	.04	<i>NPDES permitting</i>
							.02	.03	.05	.05	<i>Transportation permitting</i>
							.02	.03	.05	.06	<i>Wetland permitting</i>
							.02	.03	.05	.07	<i>State and local permits</i>
							.02	.03	.05	.09	<i>Dangerous waste permit application</i>
							.02	.03	.05	.10	<i>Limited construction authorization request</i>
							.02	.03	.05	.11	<i>Construction authorization request</i>
							.02	.03	.05	.12	<i>Operations authorization request</i>
							.02	.03	.05	.9x	<i>Other</i>
							.02	.03	.06	.08	<i>Air emissions permits</i>
							.02	.03	.06		Update Regulatory Permits (e.g., RCRA Part B Permit)
							.02	.04	.02		Conduct Procedures and Manuals
							.02	.04	.03		Fencing/Barriers
							.02	.04	.04		Land Record Management
							.02	.04	.05		Transferred Property Restriction
							.02	.04	.06		Verification of Institutional Controls
							.02	.05	.04		Evaluation of Contracting Approaches, Management Options and Management Approaches
							.02	.10			Independent Contractor Verification of Cleanup or Reuse
							.02	.10			Independent Contractor Verification of Cleanup or Reuse
							.02	.12			Asset Recovery
							.02	.13			Configuration Management
							.02	.14	.01	.01	<i>Support, Coordination, and Participation in ISM Teams</i>
							.02	.14	.01	.02	<i>ISM documents development and maintenance</i>
							.02	.14	.01	.03	<i>Project ISM implementation costs</i>
							.02	.14	.01	.9x	<i>Other</i>
							.02	.14	.01		Project Integrated Safety Management (ISM)
							.02	.14	.02		Accident Analysis
							.02	.14	.03		Risk and Reliability
							.02	.14	.04		Fire Hazard Analysis
							.02	.14	.05	.01	<i>Preliminary Safety Analysis Report</i>
							.02	.14	.05	.02	<i>Final Safety Analysis Report</i>
							.02	.14	.05	.9x	<i>Other</i>
							.02	.14	.05		Safety Analysis Report
							.02	.14	.06		Hazard Analysis Reports
							.02	.14	.07		Project Industrial Safety and Health
							.02	.14	.08		Project Safety Monitoring
							.02	.14			Facility/plant management
							.02	.14			Project Safety and Health
							.02	.15			Contract Closeout

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.02	.16			Realty Services
							.02	.17			Regulatory Agency Oversight Staff
							.02	.18	.01		Records Management Facility
							.02	.18	.02		Archived Records Management
							.02	.18	.03		Electronic Records Management
							.02	.18	.04		Records Declassification
							.02	.18	.9x		Other
							.02	.18			Information Management
							.02	.19	.01		Workers Compensation Cases
							.02	.19	.02		Claims Review
							.02	.19	.03		Claims Management
							.02	.19	.04		Discovery Review
							.02	.19	.05		Discovery Litigation
							.02	.19	.06		Freedom of Information Act Reviews
							.02	.19			Litigation Support
							.03	.16			Post RA/D&D Monitoring Plan
							.03	.17			Combined Workplan
							.03	.18			Proposed Plan
							.03	.19			RCRA Permit Preparation/Modification
							.03	.20			Environmental Action Implementation Plan
							.03	.21			Waste Site Work Permits
							.03	.22			Corrective Action Plan Reporting
							.03	.23			Material Disposition Plan
							.04	.03	.02		Dose-Response Assessment
							.04	.05	.02	.01	<i>Field investigation & technical approach</i>
							.04	.05	.02	.02	<i>Chemical analysis & analytical methods</i>
							.04	.05	.02	.03	<i>Field methodologies</i>
							.04	.05	.03	.01	<i>Geology</i>
							.04	.05	.03	.02	<i>Hydrology</i>
							.04	.05	.03	.03	<i>Meteorology</i>
							.04	.05	.03	.04	<i>Demographics & land use</i>
							.04	.05	.03	.05	<i>Ecological assessment</i>
							.04	.05	.04	.01	<i>Contaminant sources</i>
							.04	.05	.04	.02	<i>Contaminant distribution & trends</i>
							.04	.05	.05	.01	<i>Contaminant characteristics</i>
							.04	.05	.05	.02	<i>Transport process</i>
							.04	.05	.05	.03	<i>Contaminant migration trends</i>
							.04	.05			Remedial Investigation Report
							.04	.06	.05		Develop remedial Alternatives in Accordance with NCP
							.04	.12	.01	.01	<i>Recommend project delivery strategy and scheduling</i>
							.04	.12	.01	.02	<i>Prepare preliminary construction schedule</i>
							.04	.12	.01	.03	<i>Prepare specifications outline</i>
							.04	.12	.01	.04	<i>Prepare preliminary drawings</i>
							.04	.12	.01	.05	<i>Prepare basis of design report/design analysis</i>
							.04	.12	.01	.06	<i>Prepare preliminary cost estimate</i>
							.04	.12	.01		Preliminary Design
							.04	.12	.02	.01	<i>Update construction schedule</i>
							.04	.12	.02	.02	<i>Prepare preliminary specifications</i>
							.04	.12	.02	.03	<i>Prepare intermediate drawings</i>
							.04	.12	.02	.04	<i>Prepare basis of Design report/design analysis</i>
							.04	.12	.02	.05	<i>Prepare revised cost estimate</i>

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.04	.12	.02	.06	Participate in intermediate design review/briefing
							.04	.12	.02		Intermediate Design
							.04	.12	.03	.00	Pre-Final / Final Design
							.04	.12	.03	.01	Prepare pre-final design specifications
							.04	.12	.03	.02	Prepare pre-final drawings
							.04	.12	.03	.03	Prepare basis of design report/design analysis
							.04	.12	.03	.04	Prepare revised cost estimate
							.04	.12	.03	.05	Participate in pre-final/final design review
							.04	.12	.03	.06	Prepare 100% design submittal
							.04	.12			Decontamination/Dismantlement Project Design
							.04	.13	.01	.01	Recommend project delivery strategy and scheduling
							.04	.13	.01	.02	Prepare preliminary construction schedule
							.04	.13	.01	.03	Prepare specifications outline
							.04	.13	.01	.04	Prepare preliminary drawings
							.04	.13	.01	.05	Prepare basis of design report/design analysis
							.04	.13	.01	.06	Prepare preliminary cost estimate
							.04	.13	.01		Preliminary Design
							.04	.13	.02	.01	Update construction schedule
							.04	.13	.02	.02	Prepare preliminary specifications
							.04	.13	.02	.03	Prepare intermediate drawings
							.04	.13	.02	.04	Prepare basis of design report/design analysis
							.04	.13	.02	.05	Prepare revised cost estimate
							.04	.13	.02	.06	Participate in intermediate design review/briefing
							.04	.13	.02		Intermediate Design
							.04	.13	.03	.01	Prepare pre-final design specifications
							.04	.13	.03	.02	Prepare pre-final drawings
							.04	.13	.03	.03	Prepare basis of design report/design analysis
							.04	.13	.03	.04	Prepare revised cost estimate
							.04	.13	.03	.05	Participate in pre-final/final design review
							.04	.13	.03	.06	Prepare 100% design submittal
							.04	.13	.03		Pre-Final / Final Design
							.04	.13			Facility Design
							.04	.15			Combined Report
							.04	.16			Engineering Evaluation/Cost Analysis
							.04	.17			Record of Decision
							.04	.18			Combined Feasibility Document
							.04	.19			Post Construction Design Report
							.04	.20			Task Requirement and Criteria
							.05	.01	.01		Mobilization of Construction Equipment & Facilities
							.05	.01	.02		Mobilization of Personnel
							.05	.01	.04		Temporary Utilities
							.05	.01	.05		Construct Plant Erection
							.05	.01	.06		Radiological Protection Laboratory
							.05	.02	.01		Removal of Trash and Debris
							.05	.02	.02		Washing or Sweeping
							.05	.02	.03		Fine Grading and Soil Preparation
							.05	.02	.04		Erosion Control
							.05	.02	.05		Sodding and Seeding
							.05	.02	.06		Planting of Trees, Shrubs, Plants
							.05	.02	.07		Revegetation
							.05	.02	.08		Irrigation System

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.05	.02	.10		Mulch/Fertilizer
							.05	.03	.01		Cut and Chip Trees
							.05	.03	.02		Removal of Stumps
							.05	.03	.03		Clearing Brush
							.05	.03	.04		Strip Topsoil
							.05	.03	.05		Tree Removal
							.05	.04	.01	.01	Office space structures
							.05	.04	.01	.02	Laboratory space/research space structures
							.05	.04	.01	.03	Storage or warehouse structures
							.05	.04	.01	.04	Treatment facility structure
							.05	.04	.01	.05	Component cooling systems
							.05	.04	.01	.06	Make-up water systems
							.05	.04	.01	.07	Feedwater systems
							.05	.04	.01	.08	Condenser cooling systems
							.05	.04	.01	.09	Sampling systems
							.05	.04	.01	.10	Turbine generator
							.05	.04	.01	.11	Electrical MCCs
							.05	.04	.01	.12	Instrumentation systems
							.05	.04	.01	.13	Cable trays and conduits
							.05	.04	.01	.14	Compressed air systems
							.05	.04	.01	.15	Instrument air systems
							.05	.04	.01	.16	Security systems
							.05	.04	.01	.17	Fire protection systems
							.05	.04	.01	.18	HVAC
							.05	.04	.01	.19	Security fencing
							.05	.04	.01	.20	Cooling towers and stacks
							.05	.04	.01	.21	Roads and parking space
							.05	.04	.01	.22	Rail roads
							.05	.04	.01	.23	Security building structures
							.05	.04	.01		Dismantling or Demolition of Non-Usable, Clean Balance of Plant Systems
							.05	.06			Load & Haul
							.05	.09			Arterial Roads / Divided Highways
							.05	.10			Re-striping Roadways / Parking Lots
							.05	.10			Diesel Generator
							.05	.11			Resurfacing Roadways / Parking Lots
							.05	.11			Access Control Facility
							.05	.12			Railroad Tracks & Crossings
							.05	.13			Bridges
							.05	.16			Retaining Wall
							.05	.18			Sprinkler System
							.05	.23			Heating / Cooling Distribution System
							.05	.25			Treatment Plants / Lift Stations
							.05	.27			Water Storage Tanks
							.05	.30			Lighting
							.05	.34			Restoration of Buildings after D&D
							.05	.35			Compressed Air/Nitrogen
							.05	.36	.01	.01	Office trailers
							.05	.36	.01	.02	Lunch/break trailer
							.05	.36	.01	.03	Emergency medical facilities trailers
							.05	.36	.01	.04	Storage facilities
							.05	.36	.01	.05	Laundry facilities

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.05	.36	.01	.06	Toilets
							.05	.36	.01	.07	Temporary laboratory
							.05	.36	.01	.08	Maintenance shop
							.05	.36	.01	.09	Truck scales
							.05	.36	.01	.10	Observation towers
							.05	.36	.01	.11	Decontamination facilities for personnel
							.05	.36	.01	.12	Decontamination facilities for construction equipment and vehicles
							.05	.36	.01	.13	Temporary cover structure over contaminated area
							.05	.36	.01	.14	Barricades
							.05	.36	.01	.15	Fire suppression systems
							.05	.36	.01	.16	POL dispensing station
							.05	.36	.01	.17	Guard houses
							.05	.36	.01	.18	Wastewater holding tanks
							.05	.36	.01	.19	Housing
							.05	.36	.01	.20	Aggregate surfacing
							.05	.36	.01	.21	Security fencing
							.05	.36	.01	.22	Roads and parking
							.05	.36	.01	.23	Culverts
							.05	.36	.01	.24	Walks
							.05	.36	.01	.25	Signs
							.05	.36	.01	.26	Grading
							.05	.36	.01	.27	Erosion control
							.05	.36	.02	.01	Site lighting
							.05	.36	.02	.02	Power connection/distribution
							.05	.36	.02	.03	Telephone/communications hook-up
							.05	.36	.02	.04	Water connection/distribution
							.05	.36	.02	.05	Sewer connection/distribution
							.05	.36	.02	.06	Gas connection/distribution
							.05	.36	.04	.01	Transport vehicles, equipment, drivers and operators
							.05	.36	.04	.02	Manifests, tolls, permits for mobilization
							.05	.36	.04	.03	Escort vehicles ownership and operation
							.05	.36	.04	.04	Construction equipment operators
							.05	.36	.04	.05	Disassembly of equipment and takedown
							.05	.36	.04	.06	Turn in OFE
							.05	.36	.07		Radiological Protection Laboratory
							.05	.39			Steam Plant Facility
							.05	.40			Switch Gear Building
							.05	.41			Important-to-Safety Switch Gear Building
							.05	.51	.03		Temporary Construction of Roads, Walks, Fences
							.05	.52	.01		Landscaping
							.05	.52	.02		Site Clearing and Grubbing
							.05	.52	.03		Dismantle
							.05	.52	.05		Loading/Hauling and Dumping
							.05	.52	.08		Railroads
							.05	.52	.09		Bridges
							.05	.52	.10		Permanent Fences
							.05	.52	.12		Retaining Wall
							.05	.52	.14		Sprinkler System
							.05	.52	.15		Culverts
							.05	.52	.16		Special Pipe Installation
							.05	.52	.17		Drainage and Utilities

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.05	.52	.18		Sewer Line
							.05	.52			Clean Site Work
							.05	.53			Concrete
							.05	.54			Masonry
							.05	.55			Metals
							.05	.56			Wood & Plastics
							.05	.57			Thermal and Moisture Protection
							.05	.58			Doors and Windows
							.05	.59			Finishes
							.05	.60			Specialties
							.05	.61			Equipment
							.05	.62			Furnishings
							.05	.63	.01		Tanks
							.05	.63			Special Construction
							.05	.64			Conveying Systems
							.05	.65	.01		Heaters and Exchangers
							.05	.65	.02		Special Pipe Installation
							.05	.65	.03		Pumps and Drivers
							.05	.65	.04		Compressors, Blower, Fans, and Drivers
							.05	.65			Mechanical
							.05	.66	.02		Lighting Fixtures
							.05	.66	.04		Electric Utilities
							.05	.66	.05		Instrumentation and Controls
							.05	.66			Electrical
							.06	.00			PRE-REMEDIAL SURVEILLANCE & MAINTENANCE
							.06	.01	.01		Develop End Point Criteria
							.06	.01	.02		End Point Criteria Verification
							.06	.01			Facility Transition
							.06	.02	.01		Surveillance and Inspections
							.06	.02	.03		Maintenance and Revegetation
							.06	.02	.04		Corrective Actions
							.06	.02	.05		Herbicide & Pesticide Applications
							.06	.02			Outdoor Surveillance & Maintenance
							.06	.03	.01		Surveillance & Inspections
							.06	.03	.02		Facility/Building Maintenance
							.06	.03	.03		Facility Risk Assessment
							.06	.03	.04		Major Facility Repairs
							.06	.03	.05		Facility System Replacement
							.06	.03	.06		ACM Encapsulation
							.06	.03	.07		Routine Radiological Surveys
							.06	.03			Indoor Surveillance & Maintenance
							.07	.01	.07	.01	Collection and review of existing documents
							.07	.01	.07	.02	Inventory of equipment and materials
							.07	.01	.07	.03	Structural characterization
							.07	.01	.07		Facility Survey and Characterization
							.07	.04			Hydrogeological Investigations - Groundwater
							.07	.06	.01		Geological Investigations (Soils/Sediments)
							.07	.09	.02		Well Refurbishment
							.07	.10	.02		Decon of Equipment
							.07	.12	.01		Biota Sampling / Population Studies
							.07	.12			Ecological Sampling

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.07	.14	.01		Hand Scanning
							.07	.14	.02		Smears and Swipes
							.07	.14	.03		Destructive Sampling (Including Removal of Paints, Drilling, Cutting of Structures/Equipment, etc)
							.07	.16			Construct Site Specific Geographical Information System (GIS)
							.07	.17			Historical/Cultural/Archeological Investigation
							.08	.04	.04		Physical Characteristics (I.e., Size Distribution, Moisture Content, Porosity, Etc)
							.08	.19	.01		Organic
							.08	.19	.02		Inorganic
							.08	.19	.03		Radiochemistry
							.08	.19			Real Time - Air / Gas Sample Analysis
							.08	.20	.01		Organic
							.08	.20	.02		Inorganic
							.08	.20	.03		Radiochemistry
							.08	.20	.04		Physical Parameters (pH, Temperature, Turbidity, etc)
							.08	.20			Real Time - Groundwater Sample Analysis
							.08	.21			Real Time - Surface Water Sample Analysis
							.08	.22			Real Time - Soil / Sediment Sample Analysis
							.08	.23			Real Time - Gas Waste Sample Analysis
							.08	.24			Real Time - Liquid Waste Sample Analysis
							.08	.25			Real Time - Solid Waste Sample Analysis
							.09	.01	.06		Other Types of Media Sampling and Screening
							.09	.08	.08		Evaluate Historical/Cultural/Archeological Data
							.09	.09	.02		Water Quality
							.09	.09	.03		Groundwater
							.09	.09	.04		Air
							.09	.09			Modeling
							.09	.11			Combined Sample Management
							.09	.12			Combined Data Management
							.09	.13			Data Review for Effectiveness
							.10	.04	.03		Design and Procure New Equipment for Constraint Handling, Packaging and Transportation Requirement
							.10	.04	.05	.01	<i>Remote-viewing systems for underwater operations</i>
							.10	.04	.05	.02	<i>Feedback and control systems for underwater operations</i>
							.10	.04	.05	.03	<i>Turntables for underwater operations</i>
							.10	.04	.05	.04	<i>Support systems for maintaining water clarity</i>
							.10	.04	.05	.05	<i>Support systems for collecting cutting fines</i>
							.10	.04	.05	.06	<i>Support system to control/eliminate explosive gas mixtures formation during cutting or from dissolution of H₂O</i>
							.10	.04	.05		Design and Procure New Equipment for Remote Underwater Work
							.10	.04	.07		Design and Procure New Equipment for Complex Environmental Remediation Tasks
							.10	.04	.09		Leasing of New or Specialty Equipment
							.10	.04	.10		Design and Procure New Measurement and Calculation Devices and Techniques
							.10	.08			Test Special Tools and Equipment
							.10	.09	.01		For Hardware and Softwares
							.10	.09	.02		For Operations and Maintenance
							.10	.09	.03		Installation
							.10	.09	.04		Testing

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.10	.09	.05		Performance Measurement
							.10	.09			Design, Procure, Test New Procedures
							.10	.12	.01		Status Review
							.10	.12	.02		Technology Comparisons
							.10	.12	.03		Performance Comparisons
							.10	.12	.04		Technology Review for Ease of Operations, Waste Generation, Future Decontamination and Decommissioning
							.10	.13			Technology Transfer
							.10	.14			Product Qualification, Characterization, and Certification
							.11	.00			TREATMENT PLANT/FACILITY/PROCESS
							.11	.01			Reserved for Future Use
							.11	.01			Covered Treatment Train Technologies Unit
							.11	.03			Simple Remedial Treatment Facilities (e.g., Equipment Slabs, Utilities)
							.11	.04			Treatment Train Facility (e.g., Rain Covers, Foundation, Utilities)
							.11	.05			Full Scale Environmental Management Plant/Facility
							.11	.06	.01		Receiving & Inspection
							.11	.06	.02		Assay
							.11	.06	.03		Container Handling
							.11	.06	.04		Waste Stream Sort/Separation - Contact Handled
							.11	.06	.05		Separation/Handling Special Materials/Wastes
							.11	.06			Environmental Management Low/Moderate Hazard Treatment Front-End
							.11	.07	.01		Receiving & Inspection
							.11	.07	.02		Assay
							.11	.07	.03		Waste Stream Sort/Separation - Remote Handled
							.11	.07	.04		Remote - Container Handling
							.11	.07	.05		Separation/Handling Special Materials/Wastes
							.11	.07			Environmental Management High Hazard/Remote Treatment Front-End
							.11	.08	.01		Receiving & Inspection
							.11	.08	.02		Assay
							.11	.08	.03		Waste Stream Sort/Separation - Remote Handled
							.11	.08	.04		Remote - Container Handling
							.11	.08	.05		Separation/Handling Special Materials/Wastes
							.11	.08			Environmental Management Low Hazard Functional Area (e.g., Hazardous/Toxic)
							.11	.09			Environmental Management Moderate Hazard Functional Area (e.g., Hazardous/Toxic, LLW & MLLW)
							.11	.10			Environmental Management High Hazard Functional Area (e.g., ALLW, MALLW, TRU, Spent Fuel, CWM)
							.11	.11			Environmental Management Remote Functional Area (e.g., ALLW, MALLW, TRU, Spent Fuel, & CWM)
							.11	.12			Waste Treatment Fees and Taxes
							.11	.13	.01		Pre-Operations
							.11	.13	.02		Cold Commissioning
							.11	.13	.03		Hot Commissioning
							.11	.13			Facility Commissioning Activities
							.12	.00			STORAGE FACILITY/PROCESS
							.12	.01			Reserved for Future Use
							.12	.02	.02		Waste Storage Structure/Building
							.12	.03	.01		Receiving & Inspection
							.12	.03	.02		Assay
							.12	.03	.03		Container Handling

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.12	.03	.04		Waste Stream Sort/Separation - Contact Handled
							.12	.03	.05		Separation/Handling Special Materials/Wastes
							.12	.03			Storage Facility Front-End - Low / Moderate Hazard
							.12	.04	.01		Receiving & Inspection
							.12	.04	.02		Assay
							.12	.04	.03		Waste Stream Sort/Separation - Remote Handled
							.12	.04	.04		Remote - Container Handling
							.12	.04	.05		Separation/Handling Special Materials/Wastes
							.12	.04			Storage Facility Front-End - High / Remote Hazard
							.12	.05	.01		Low Hazardous Storage
							.12	.05	.02		Vault Storage
							.12	.05	.03		Silo Storage
							.12	.05	.04	.01	<i>Wet intermediate storage</i>
							.12	.05	.04	.02	<i>Dry intermediate storage</i>
							.12	.05			Contact Handled Storage
							.12	.06	.01		Vault Storage
							.12	.06	.02		Silo Storage
							.12	.06	.03		Pool Storage
							.12	.06			Remote Handled Storage
							.12	.07			Mixed Waste Storage Facility
							.13	.01			Reserved for Future Use
							.13	.02	.01		Receiving & Inspection
							.13	.02	.02		Assay
							.13	.02	.04		Waste Stream Sort/Separation - Contact Handled
							.13	.02	.05		Separation/Handling Special Materials/Wastes
							.13	.02			Disposal Facility Front-End - Low / Moderate Hazard
							.13	.03	.01		Receiving & Inspection
							.13	.03	.02		Assay
							.13	.03	.03		Waste Stream Sort/Separation - Remote Handled
							.13	.03	.04		Remote - Container Handling
							.13	.03	.05		Separation/Handling Special Materials/Wastes
							.13	.03			Disposal Facility Front-End - High / Remote Hazard
							.13	.10			Confined Disposal Facilities (CDFs)
							.13	.12			Intermediate Depth Disposal
							.13	.13			Geologic Disposal
							.13	.14			Shallow Land Disposal
							.13	.16			Silo Disposal
							.13	.17			Bore-Hole Disposal
							.15	.03	.01		Foundations
							.15	.03	.02		Columns
							.15	.03	.03		Beams and Supports
							.15	.04	.01	.01	<i>Temporary barrier</i>
							.15	.04	.01	.02	<i>Tenting</i>
							.15	.04	.01	.03	<i>Glovebags</i>
							.15	.04	.01		Establishment of Containment Around Contaminated Material to be Removed
							.15	.04	.02		Air Cleaning Units
							.15	.04	.03		Secondary Containment
							.15	.04	.04		Wet ACM w/ Amended Solutions
							.15	.04	.05	.01	<i>Reciprocating saw</i>
							.15	.04	.05	.02	<i>Portable band saw</i>
							.15	.04	.05	.03	<i>Mechanical shears</i>

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.15	.04	.05		Cut and Remove ACM
							.15	.04	.06		Prepare, Package and Remove ACM
							.15	.04	.07		Wet Brush or Clean Work Area and Surfaces
							.15	.04	.08		Apply Encapsulant to All Surfaces in Work Area
							.15	.04	.09		Provisions for Changing, Washing, and Waste Handling
							.15	.06			Well Abandonment
							.17	.13			Aquatic Barrier
							.17	.14			Sediment Capping
							.19	.03			Upper Vegetative (topsoil) Layer
							.19	.04			RCRA C
							.19	.05			RCRA D
							.19	.06			Asphalt/Concrete
							.19	.07			Landfill Cap Enhancement
							.19	.08			Engineered Cap
							.19	.09			Bottom Barrier
							.21	.01			Biological Barrier
							.21	.02			Reserved for Future Use
							.21	.04			Cometabolic Treatment
							.21	.05			Constructed Wetlands
							.21	.07			Land Treatment
							.21	.08			Natural attenuation
							.21	.09			Phytoremediation
							.21	.10			Baroball
							.22	.02			Biofilter
							.22	.04			Cometabolic Treatment
							.23	.01			Reserved for Future Use
							.23	.02			Oxygen Release Compounds
							.24	.00			EX SITU CHEMICAL TREATMENT
							.24	.06			Hydrogen Reduction
							.24	.08			Chemical Oxidation/Reduction
							.24	.09			Oxygen Release Compounds
							.24	.14			Ultraviolet Oxidation
							.24	.15			Coagulation/Flocculation/Precipitation
							.24	.16			Activated Alumina
							.24	.17			Forage Sponge
							.24	.18			Chemical Extraction (Acid/Alkaline Extraction)
							.25	.01			In-Well Air Stripping/Circulating Wells
							.25	.03			Reserved for Future Use
							.25	.04			Cryogenics
							.25	.05			Fracturing (Hydrofracturing)
							.25	.06			Lasagna Process
							.25	.07			Laser Cutting
							.25	.09			Passive/Reactive Treatment Wall
							.25	.10			Skimming
							.25	.11			Soil Flushing (Surfactant/Solvent)
							.25	.13			Reserved for Future Use
							.25	.15			Coating
							.25	.16			Electrokinetics
							.25	.17			Soil Vapor Extraction
							.25	.18			Fracturing (Pneumatic)
							.25	.19			Blast Enhanced Fracturing

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.25	.20			Directional Wells (Enhancement)
							.25	.22			Dual Phase Extraction (Multi-Phase)
							.25	.23			Draw-Down Pumping
							.25	.24			Two Phase Pumping
							.26	.06			Reserved for Future Use
							.26	.08			Reserved for Future Use
							.26	.09			Decant / Phase Separation
							.26	.12			E-Beam
							.26	.13			Electrochemical Oxidation
							.26	.14			Reserved for Future Use
							.26	.21			Freeze Crystallization
							.26	.22			Reserved for Future Use
							.26	.25			High Pressure Aqueous Destruction
							.26	.27			Magnetic Separation
							.26	.34			Skimming
							.26	.36			Solids Dewatering/Drying
							.26	.37			Sprinkler Irrigation
							.26	.39			Surfactant Enhanced Recovery
							.26	.40			Synthetic Resin Adsorption
							.26	.41			Gravity Separation
							.26	.42			Cryogenics
							.26	.43			Nanofiltration
							.26	.44			Membrane Pervaporation
							.27	.01			Thermal Blanket (with Vacuum Extraction)
							.27	.02			Six Phase Heating and Extraction
							.27	.03			Reserved for Future Use
							.27	.06			Reserved for Future Use
							.27	.07			Low Temperature Thermal Desorption
							.28	.05			Open Burning / Open Detonation
							.28	.06			Plasma
							.28	.07			Pyrolysis
							.28	.08			Reserved for Future Use
							.28	.09			Retort/Amalgamation
							.28	.13			Thermally Enhanced Vapor Extraction
							.28	.14			Molten Metal
							.28	.15			Hot Gas Decontamination
							.29	.01			Asphalt-Based Encapsulation
							.29	.05			In Situ Pipe Grouting
							.30	.02			Calcination
							.30	.03			Polymer Based Encapsulation
							.30	.05			Reserved for Future Use
							.30	.08			Modified Sulfur Cement
							.30	.09			Polyethylene Extrusion
							.30	.10			Emulsified Asphalt
							.31	.01	.02		Shutdown of unnecessary equipment
							.31	.01	.03		Compilation/verification of as-built drawings
							.31	.01	.04		General housekeeping
							.31	.01	.05		Identification, Maintenance, and Refurbishment of Systems and Equipment for Reuse
							.31	.01	.06	.01	Isolation of power generating equipment
							.31	.01	.06	.02	Disconnection of power generating equipment from grid

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.31	.01	.06		Isolation of Power Equipment
							.31	.01	.07		De-Energization and Isolation of Non-Essential Equipment
							.31	.01	.08		De-Energization and Isolation of Primary and Auxiliary Equipment in Reactor
							.31	.02	.01	.01	<i>Unloading of fuel</i>
							.31	.02	.01	.02	<i>Transfer of fuel</i>
							.31	.02	.03	.01	<i>Water</i>
							.31	.02	.03	.02	<i>Oil</i>
							.31	.02	.03	.03	<i>Heavy water (D2O - deuterium oxide)</i>
							.31	.02	.03	.04	<i>Sodium</i>
							.31	.02	.03		Removal of System Fluids
							.31	.02	.04		Removal of Spent Resins
							.31	.02	.05		Modification of Access and Changing Facilities
							.31	.02	.06		Disconnection of Power Supplies/Perform Zero Energy Checks
							.31	.02	.07		Installation of Viewing Devices
							.31	.02	.08		Reduction or Elimination of Electrical and Water Supply Systems
							.31	.02	.09		Installation of Continuous Air Monitoring System
							.31	.02	.10		Removal of Nuclear Materials
							.31	.02	.11		Removal of Emergency Response Equipment, Tools, and Supplies
							.31	.02	.12		Asset Recovery
							.31	.02	.13		Removal of All Unattached Hazardous Material
							.31	.02	.14		Removal of All Unattached Ordnance
							.31	.02	.15		Removal of All Unattached Radiological Materials
							.31	.02	.16		Nuclear Fuel Material Inventory Recovery
							.31	.02	.17		Isolation of Unused-Resin Purification Stations Pending Subsequent Decommissioning
							.31	.02			Deactivation
							.31	.03	.03		Removal of Inventory Not Suitable for Long-Term Storage (Move to x.31.02)
							.31	.03	.04		Replacement or Enhancement of Equipment and Systems With More Efficient Components (Also X.06.03.05)
							.31	.03			Preparation for Dormancy
							.31	.04	.01		Isolation of Process, Utility, and Instrument Air Line Penetrations
							.31	.04	.02		Isolation of Electrical Power
							.31	.04	.03		Isolation of Fire Suppression Nozzles and Temperature Detectors
							.31	.04	.04		Isolation of Exhaust Ventilation System
							.31	.04	.05		Isolation of Gloveports and Bagports
							.31	.04	.06		Isolation of Criticality Drains
							.31	.04	.07		Isolation of All Other Seals and Lines
							.31	.05	.01		Isolation of Tanks
							.31	.05	.02		Isolation of Lines Entering and Exiting the Building
							.31	.05	.03		Isolation of Utilities to the Building
							.31	.05	.05		Securing/Isolation of Building From Both Personnel and Animals/Insects
							.31	.05	.06		Securing of Windows and Doors
							.31	.05	.07		Repairing of Roof
							.31	.05	.09		Removal of Obstacles to Dismantlement and Decommissioning
							.31	.05	.10	.01	<i>Physical reconfiguration of boundary</i>
							.31	.05	.10	.02	<i>Modification of access ways</i>
							.31	.05	.10	.03	<i>Reconfiguration, reconstruction, O&M of security fencing, access, barriers, facilities and others (see also x.05.14 & x.01.03.11)</i>
							.31	.05	.10		Site Boundary Reconfiguration

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.31	.05	.11	.00	Reconfiguration, Rerouting, and Operations and Maintenance of Utilities and Support Services (Also x.06.03.04)
							.31	.05	.11	.01	<i>Electrical</i>
							.31	.05	.11	.02	<i>HVAC</i>
							.31	.05	.11	.03	<i>Fire protection</i>
							.31	.05	.11	.04	<i>Lifting devices</i>
							.31	.05	.11	.05	<i>Alarms and monitors</i>
							.31	.05	.12		Reconfiguration or Modification of Containment Structure
							.31	.05			Site Reconfiguration, Isolating and Securing Structure
							.31	.06	.01		Removal of cranes
							.31	.06	.02	.01	<i>Hoists</i>
							.31	.06	.02	.02	<i>Bridges</i>
							.31	.06	.02	.03	<i>Tooling</i>
							.31	.06	.02	.04	<i>Transfer containers</i>
							.31	.06	.02	.05	<i>Storage racks</i>
							.31	.06	.02	.06	<i>Conveyors</i>
							.31	.06	.02	.07	<i>Upenders</i>
							.31	.06	.02	.08	<i>Carriages</i>
							.31	.06	.02	.09	<i>Inspection devices</i>
							.31	.06	.02	.10	<i>Cameras</i>
							.31	.06	.02	.11	<i>Manipulators</i>
							.31	.06	.02	.12	<i>Saws</i>
							.31	.06	.02		Removal of fuel positioning systems
							.31	.07	.02		Calculations to evaluate inventory
							.31	.08	.01		Decontamination of systems for dose reduction/reduction of controlled area
							.31	.08	.02		Washing of sump areas to remove excess residual chemicals
							.31	.08	.03		Protective clothing/breathing apparatuses
							.31	.08	.04		Decontamination and Release of Rad Zones
							.31	.08	.06		Surface decontamination of floors
							.31	.08	.08		Surface decontamination of equipment/dismantled piping
							.31	.08	.09		Surface decontamination of piping and tank internals
							.31	.08	.10		Decontamination of reactor vessel & internals
							.31	.08	.11		Decontamination of primary and auxiliary systems
							.31	.08	.12		Decontamination of biological shield
							.31	.08	.13		Decontamination of linings
							.31	.08	.15		Decontamination for recycling and reuse
							.31	.08	.16		Locating Areas to Be Decontaminated
							.31	.08	.17		Reconfiguration of Area and Locations
							.31	.08	.18		Area Layout and Control/Containment Area Setup
							.31	.08	.19		Decontamination Area/Facility for Equipment and Vehicles
							.31	.08	.20		Decontamination Area/Facility for Personnel (I.e. Showers, Changing Rooms, Monitors, Waste Handling)
							.31	.08	.21		Decontamination of Buildings and Stacks
							.31	.08	.07		Surface decontamination of walls
							.31	.09	.01		Cutting, sizing, and removal of equipment
							.31	.09	.02		Cutting, sizing, and removal of instrument tubing
							.31	.09	.03	.01	<i>Establishment of containment, whether by temporary barriers or by tenting</i>
							.31	.09	.03	.02	<i>Removal of concrete structures around the embedded piping</i>
							.31	.09	.03	.03	<i>Removal of the embedded piping</i>

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.31	.09	.03		Cutting, sizing, and removal of piping
							.31	.09	.04		Cutting, sizing, and removal of tanks
							.31	.09	.05		Cutting, sizing, and removal of structures/stacks
							.31	.09	.06		Sorting and Segregation of Materials and Components
							.31	.10	.01		Cutting, sizing, and removal of flat stock and pressure vessels
							.31	.10	.02		Cutting, sizing, and removal of internal and attached piping
							.31	.10	.03		Cutting, sizing, and removal of control rods
							.31	.10	.04		Cutting, sizing, and removal of assemblies
							.31	.10	.05		Cutting, sizing, and removal of instrumentation
							.31	.10	.06		Cutting, sizing, and removal of other internals
							.31	.10	.07	.00	Disconnecting of Reactor Vessels and Internals
							.31	.10	.07	.01	Control-rod blades and motors, rod guide tubes, RSA-Guide tubes
							.31	.10	.07	.02	Reactor pressure vessel top head
							.31	.10	.07	.03	Reactor core top head
							.31	.10	.07	.04	Steam dryer
							.31	.10	.07	.05	Feedwater Sparger ring
							.31	.10	.07	.06	Core shroud, including fixing
							.31	.10	.07	.07	Reactor pressure vessel including support skirt and insulation
							.31	.10	.08		Preparation of Work Area
							.31	.10	.09		Handling Devices and Protection Systems
							.31	.10	.10		Removal of Handling Devices and Protection Systems
							.31	.10	.11		Sorting and Segregation of Materials and Components
							.31	.10	.12		Dams on Vessel Nozzles or Gates to Isolate and Contain the Pool Being Used for Disassembly (If Performed Underwater)
							.31	.11	.01		Disconnecting, Unbolting, Disassembly/Cutting, Sizing, and Removal of Piping
							.31	.11	.02		Disconnecting, Unbolting, Disassembly/Cutting, Sizing, and Removal of Pumps
							.31	.11	.03		Unbolting, Disassembly/Cutting, Sizing, and Removal of Containment Other Than Biological Shields
							.31	.11	.04		Disconnecting, Unbolting, Cutting, Sizing, and Removal of Primary Cooling Circuits
							.31	.11	.05		Removal of Subsurface Materials
							.31	.11	.06		Disconnecting, Unbolting, Cutting, Sizing, and Removal of Secondary Cooling Circuits
							.31	.11	.07		Disconnecting, Unbolting, Disassembly/Cutting, Sizing, and Removal of Other Primary or Auxiliary Systems
							.31	.11	.08		Preparation of Work Area
							.31	.11	.09		Removal, Dismantling or Demolition of Spent Fuel Pool and Foundation
							.31	.11	.10		Removal, Dismantling or Demolition of Hot Cells
							.31	.11	.11		Removal, Dismantling or Demolition of Footing Drain Removal
							.31	.11	.12		Sorting and Segregation of Materials and Components
							.31	.11	.13		Disconnecting, Unbolting, Disassembly/Cutting, Sizing, and Removal of Heat Exchangers
							.31	.12	.01		Cutting, sizing, and removal of reinforcement materials
							.31	.12	.02		Cutting, sizing, and removal of biological shield/concrete
							.31	.13	.01		Drainage of spent fuel pool
							.31	.13	.03		Removal of Contaminants in Pool
							.31	.13	.04		Cleaning of Surface to Limit Migration of Contaminants
							.31	.14	.01		Cutting, sizing, and removal of lead glass windows
							.31	.14	.02		Cutting, sizing, and removal of internal remote operated cranes

Crosswalk from HTRW WBS to ECES

32			33 & 34			HAZARDOUS, TOXIC, RADIOACTIVE WASTE WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		2	3	4	5	ENVIRONMENTAL COST ELEMENT STRUCTURE
							.31	.14	.03		Cutting, sizing, and removal of manipulators
							.31	.14	.04		Cutting, sizing, and removal of Gloveports and Bagports
							.31	.14	.05		Cutting, sizing, and removal of liquid and gas piping
							.31	.14	.06		Cutting, sizing, and removal of ventilation systems
							.31	.14	.07		Cutting, sizing, and removal of lighting and electrical systems
							.31	.14	.08		Cutting, sizing, and removal of fire suppression systems
							.31	.16	.01		Zoning for long-term storage
							.31	.16			Facility (Controlled Area) Hardening, Isolation or Entombment
							.31	.17	.02		Removal of Contaminated Components That Can Only Be Dismantled at The End of The Removal Process
							.31	.17	.03		Removal of Non-Contaminated or Decontaminated Ancillary Equipment
							.31	.17	.03		Demolition Using Other Tools
							.31	.17			Removal of All Other Facilities, or Entire Contaminated Facility
							.31	.19			Dismantling of Intermediate Fuel Storage Facility
							.31	.21	.01		Dismantling or Demolition of Environmental Treatment Unit or Facility
							.31	.21	.02		Dismantling or Demolition of Waste Storage Facilities
							.31	.21	.03		Dismantling or Demolition of Waste Disposal Facilities
							.31	.21			Dismantling or Demolition of Other Facilities
							.32	.00			MATERIAL HANDLING/TRANSPORTATION
							.32	.01	.01		Receiving & Inspection
							.32	.01	.03		Waste Conditioning
							.32	.01	.04		Contact Handled Packaging/Overpacking
							.32	.01	.05		Remote Handled Packaging/Overpacking
							.32	.01	.06		Washing
							.32	.01	.07		Waste Sorting and Segregation
							.32	.01			Waste Stream Handling / Packaging
							.32	.02	.01		Transportation Device/Equipment for On-Site Transfers
							.32	.02	.02		Transportation Device/Equipment for Off-Site Transportation
							.32	.02			Transportation Device / Equipment
							.32	.10	.01		Special Permits, Packaging and Transport Requirements
							.32	.10	.02		Load and Haul Prepared Waste
							.32	.10	.03		Load and Haul Prepared Special Materials
							.32	.10			Certification & Shipping
							.32	.11	.01		Removed Drums/Tanks & Misc. Transportation
							.32	.11	.02		Surface Water (Free Product) & Sediments Transportation